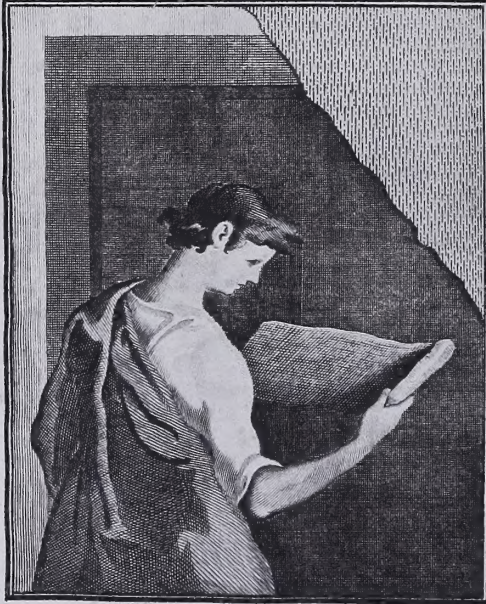


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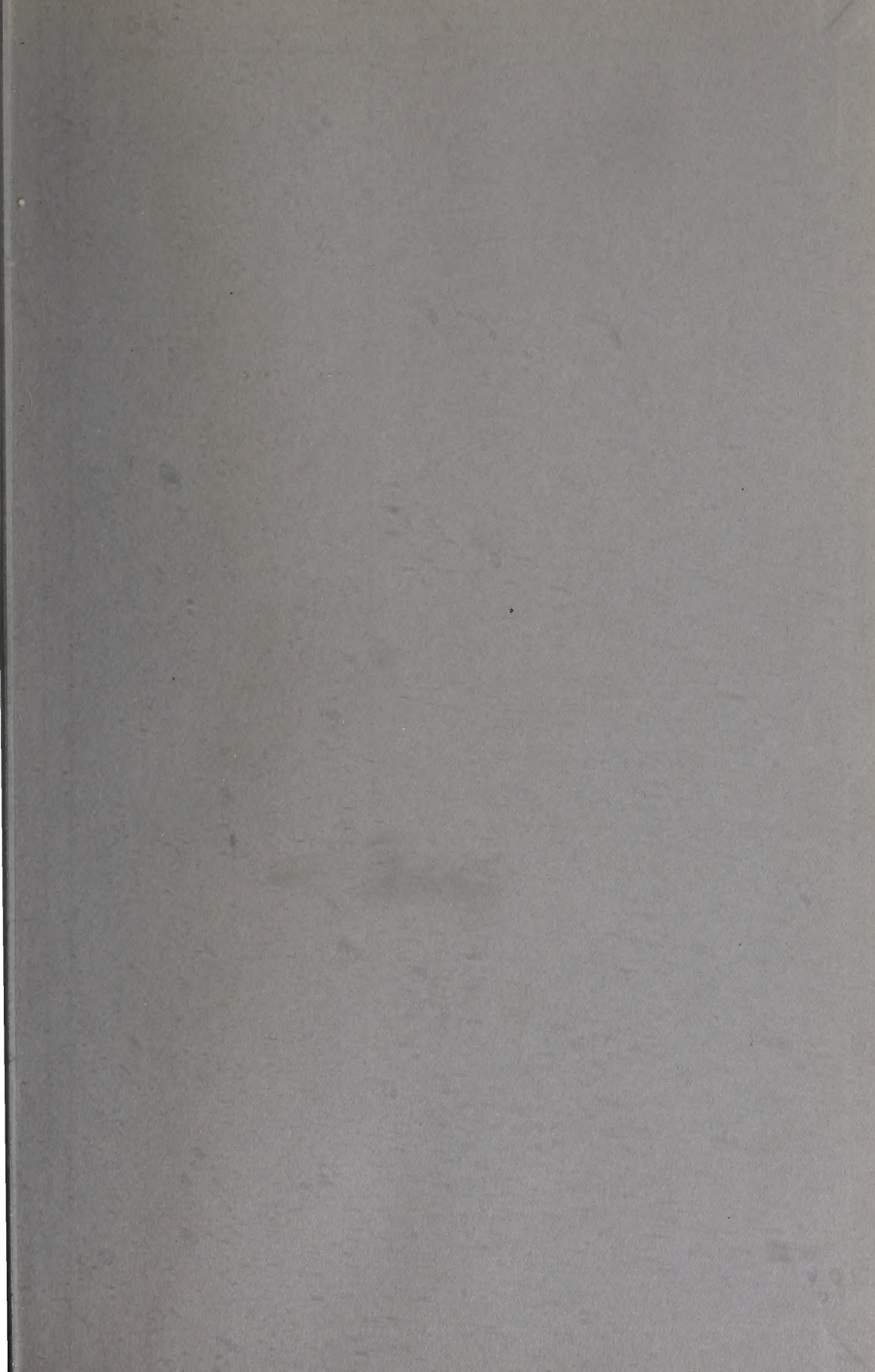
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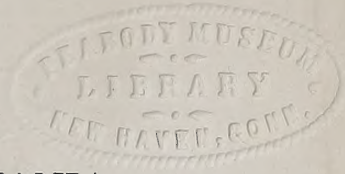


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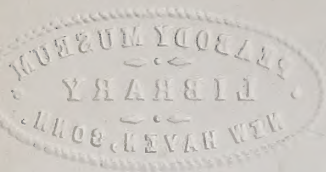
UNIVERSITY OF PENNSYLVANIA

THE MUSEUM JOURNAL

VOLUME VIII

THE UNIVERSITY MUSEUM
PHILADELPHIA

1917

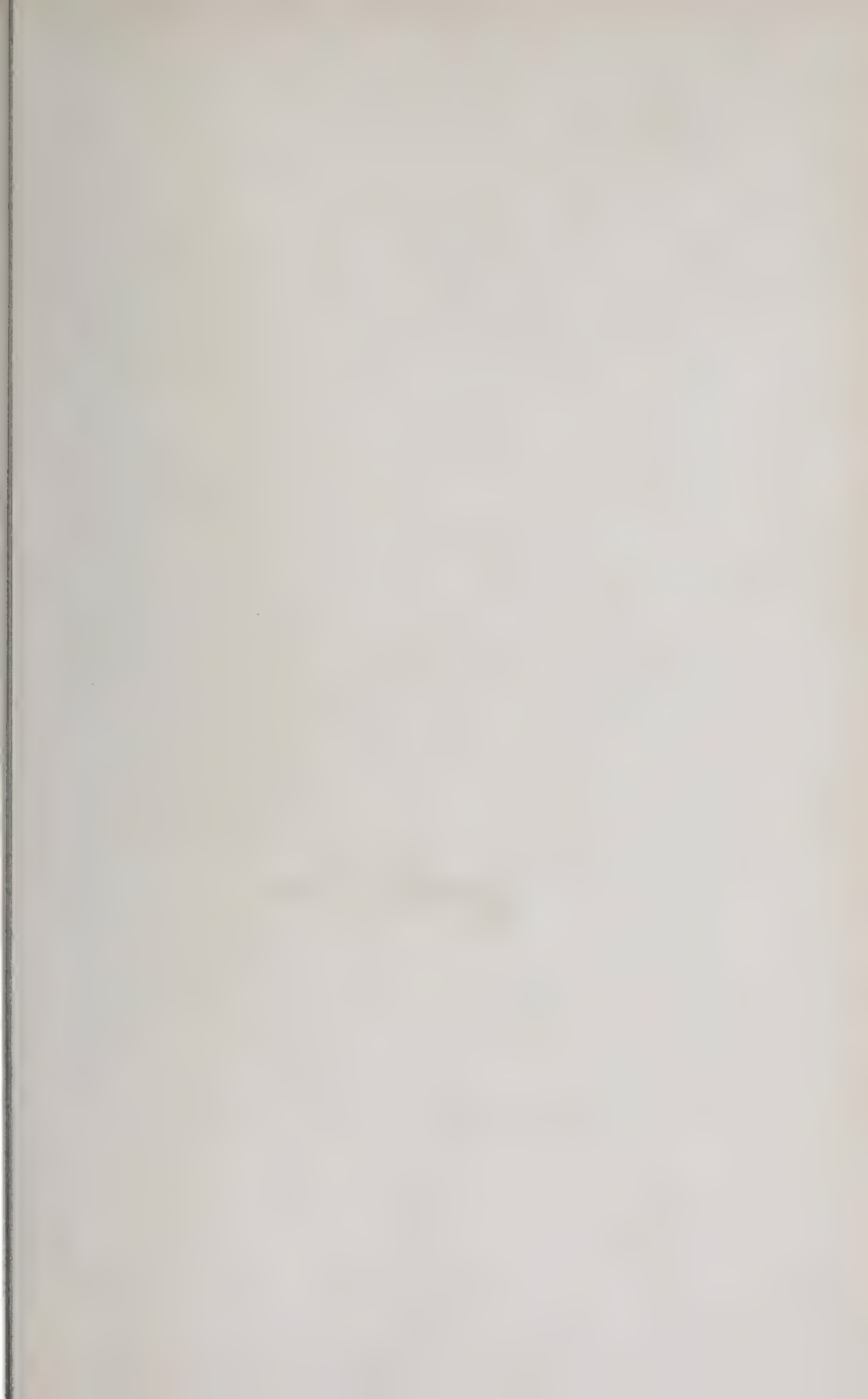


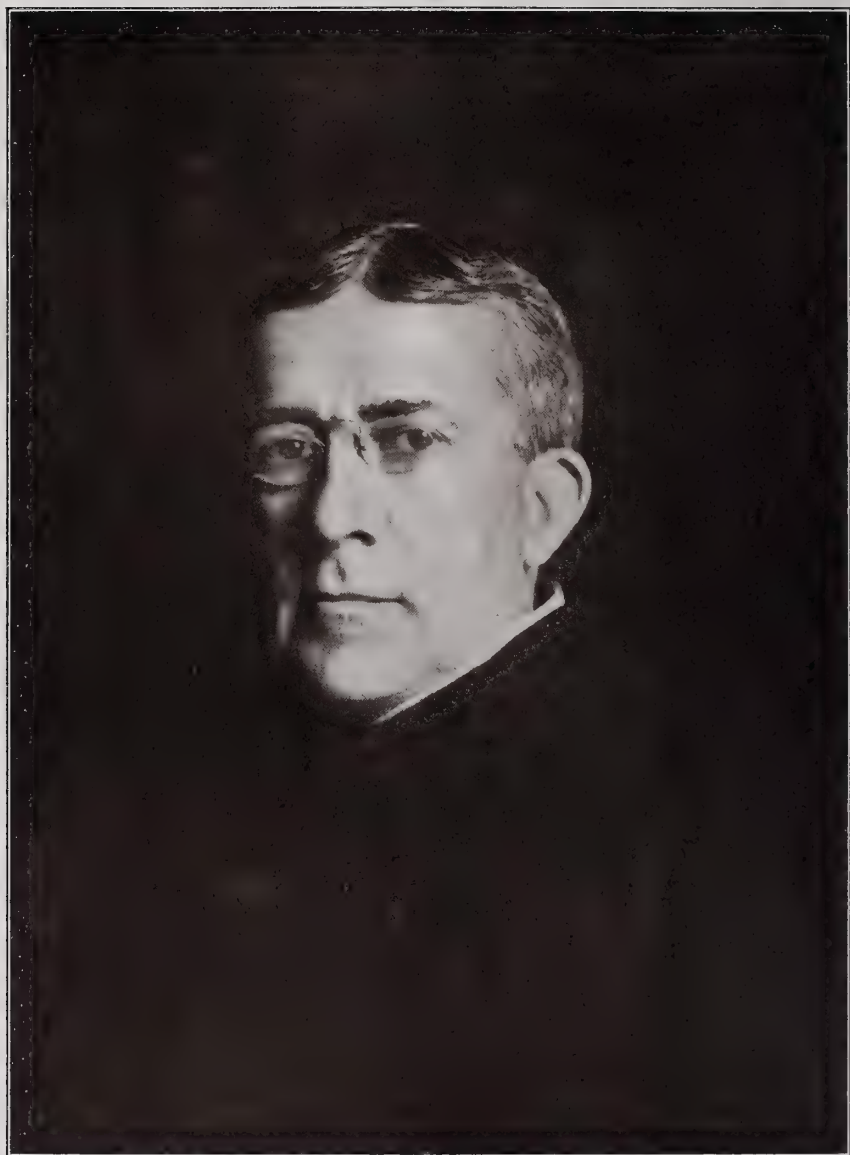
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DR. CHARLES CUSTIS HARRISON

THE MUSEUM JOURNAL

Vol. VIII

PHILADELPHIA, MARCH, 1917

No. 1

DOCTOR HARRISON ELECTED PRESIDENT

AT a meeting of the Board of Managers held on January 19, Dr. Charles Custis Harrison was elected President of the University Museum. The labors connected with this office are not new to Dr. Harrison: as Provost of the University he always appreciated and encouraged the Museum's work, and as Chairman of the Executive Committee of the Museum he has for several years participated actively in all of its labors, rendering with the utmost disregard of himself, a loyal and devoted service to his City and his Country.

From all points of view no action could have been more fitting or more fortunate than the election of Dr. Harrison to succeed Mr. Eckley B. Coxe, Jr., in the office of President of the University Museum. Working together for years toward the same end, there always existed a close association and a deep sympathy between the late President and the ex-Provost of the University. In 1910, after he had retired from the Provostship, Dr. Harrison stated that his chief incentive for taking up the active work of the Museum was a feeling of loyalty towards Mr. Coxe and a desire to help him in the important service which he was rendering to the public through the Museum and through many other channels.

This happy relationship, based on mutual esteem, has been a source of strength to the Museum and has enabled it to enter upon a period of useful activity. The traditions that belong especially to Mr. Coxe's term of office and that are closely identified with his personality, are, through the election of Dr. Harrison, passed on and perpetuated under the present administration.

In these circumstances, the Museum, the University and the Community at large have many reasons to be congratulated. Among the first of these reasons there stands out Dr. Harrison's staunch and unselfish devotion to well considered public interests, combined with his breadth of vision and intellectual force. The complement of this is the responsive attitude of the country to any movement under his leadership. It is also worthy of note that there is a close correspondence between the Museum's interests and Dr. Harrison's achievement. His long and productive public service as Provost of the University carried with it an unusual experience in dealing with the practical problems of education, and his purposes, as they were carried into effect, brought to bear an elevating influence in the Community that gradually extended itself throughout the Country and met with honored recognition abroad. The Museum's proper work as an instrument for culture and for promoting education applies first to the City and the State, reaches out toward the national welfare and is echoed by responsive spheres of influence in other countries.

It is indeed rarely that a public institution has had at its head a succession of officers who, like Mr. Coxe and Dr. Harrison, from a pure sense of duty and devotion, have ever stood ready to give their time, their energies and their private means freely to its service. It is perhaps even more rare that an institution finds a man to its need who, by experience and by aptitude, is so eminently fitted to render such a service as Dr. Harrison. The motives which led him seven years ago to take up the active work of the Museum have already been stated and they underlie his interest today, but our understanding of that interest would be incomplete if we failed to take account of the fact that in the University Museum Dr. Harrison has found a field of labor that is in keeping with his ability, in harmony with his taste and worthy of his great energy and his distinguished career. He has often expressed his regret that, although Paris has the Louvre, although London has the British Museum and the South Kensington, and although New York has the Metropolitan, Philadelphia has nothing that corresponds to these great Museums. Yet each of these, in the city which it adorns, is considered not only a source of pleasure and recreation, but an indispensable factor in the intellectual and moral welfare of its population.

It is an unusual opportunity that now presents itself to Philadelphia to gain some of the privileges and elements of distinction

that a Museum affords and that are enjoyed by every other great city in the world. With the confidence that Dr. Harrison inspires everywhere and with the support to which he is so eminently entitled and which has been accorded him in the past, there is no reason why his well considered plan for a Museum should not be quickly developed. If this plan should nevertheless fall short of complete fulfilment it will be through no failure on the part of Dr. Harrison, who has already shown his willingness to work and who has abundantly proved his public spirit.

AN ATTIC GRAVE STELE

ONE of the most important pieces of Greek sculpture that has come to America in recent years has just been acquired by the University Museum. It is a stele or grave relief, and belongs to a class of monuments which, like our modern tombstones, were erected in memory of the dead to mark the places of their burial. Such monuments are today rarely met with in museums outside of Greece. Their size and, on the whole, their general excellence, make them much prized by the archæologists of Greece, and by all who are interested in the history of art.

This stele is roughly 1.55 meters high and 90 centimeters wide, the typical size of the best of these monuments. It is of Pentelic marble, which has turned to a deep brown. This patina is unusually good, and rich. The stele has been split in two, and I fear that this was done intentionally: fortunately, however, the two parts join quite perfectly in front. Underneath the chair of the seated figure there is an old break and a fragment is missing.

The subject represented by the sculpture is one not uncommon among these grave reliefs. A woman, seated in a straight chair, holds the hand of a man who stands in front of her. This woman is the deceased, over whose tomb the monument was placed. Her face wears an expression of calm; and, indeed, in none of the three figures is there any thought of suffering or pain. There is no suggestion of the trappings of death that is too often the prevailing idea with modern burial customs, and which figure all too frequently on the tombstones in our cemeteries. In fact, into this scene of farewell, of the fourth century before Christ, we can read a message of immortal life that is really Christian in spirit. The calm and peace which these figures show seem to prove their belief that in a better world they will meet again and renew their intimate relations, and that the parting is but temporary.

The woman wears a simple, yet extremely graceful, costume. Her undergarment, or chiton, is made with sleeves, which are formed by bringing the ends of the drapery together by a series of brooches. These sleeves, if, indeed, they can be so called, extend only to the elbow, leaving the forearm bare. Over this chiton a heavy wrap,



FIG. 1.—An Attic Grave Stele of the Fourth Century B. C.

called a himation, is thrown shawl-fashion over the shoulders and lies across her lap. Her feet, clad in sandals, rest on a footstool. Her hair is short and curly, done in a coiffure of rather studied simplicity.

The man whose hand she clasps, and who is in all probability her husband, stands before her. His face, though calm, shows deep feeling and affection, and there is a certain nobility about his entire aspect. He wears merely a himation, which falls over his left shoulder, leaving the right shoulder, the breast, and the right arm bare; below the breast this garment is draped around him, and reaches to his feet. He has thick, wavy hair, and a full beard.

In the background, between the two principal actors in this little scene, is another man, somewhat older in years, perhaps the husband's father. He, too, has a full beard, thicker and heavier than that of the husband, and thick hair; but although his hair is of a much thicker growth, he is evidently older than the others. He, too, wears a himation only.

All three figures are carved in very high relief, the heads being almost in the round. This is a sign of relatively late date, perhaps the second half of the fourth century B. C. The preservation of the figures is remarkably good.

Before enlarging on the artistic excellence of the relief, it will be necessary to discuss the remaining peculiarities of this stele, both architectural and epigraphical. Let us, therefore, first examine what may be called its architecture. The figures are enclosed in a temple-like structure, as is almost always the case with these grave reliefs. At each end of the stele is an anta-column of the Doric order, perfectly plain, and topped with a simple capital. Resting on them is a lintel, or architrave, bearing an inscription. Above this is a molding, on which can be traced an egg and dart pattern. Then comes a plain cornice, surmounted by another similar molding. Above this comes the roof. And here we have a real peculiarity. Most of the stelae that have come down to us have a roof as seen from the front, with a tympanum; this, however, departs from the usual custom, and has the side view instead. Thus, we find that this stele is not only remarkable for its artistic excellence, but for certain archæological peculiarities. In this side view even cover tiles are inserted, the two at the end being represented as corner tiles. The central cover tile is surmounted at the ridge by a boss of marble, held in place by a seal of lead, in a hole that has been

drilled for its reception. It seems likely that this may have been for the base of a palmette, or for some other ridge ornament; for such decoration was not unknown among the Greeks.

As has been said, there is an inscription running along the architrave. At first, the correct reading of the inscription, and the solution of the problem that is offered, were difficulties that seemed almost insurmountable. In the first place, it is very lightly cut in the stone, and is almost illegible, so that I am not certain that the readings offered are altogether correct; in the second place, part of it is in one line only, part in two. Various methods were tried to read this inscription, which, as has been said above, was almost illegible. It was finally decided to make a plaster cast of the inscription in the hope that by this means all the letters would come out clearly. In this method the problem that was offered has been satisfactorily solved. There is really not one inscription on the lintel, but three; and these are the names and patronymics of the three persons represented in the relief. The name of the woman, as we find it on the inscription, seems to have been

ΚΡΙΝΤΙΑ ΑΣΤΡΑΤΙΟΤΟΤΓΑΤΝΡ

Κρινυία, Ἀστρατίου θυγάτηρ, meaning, "Krinuia, daughter of Astratios."

The man in the center has, over his head, the following legend:

ΝΑΤΚΑΗΣ

ΝΑΤΚΑΑΙΟΤΣ (?)

N

Ναυκλής Ναυκλαίους (?) N—(rest illegible), or "Naucles, the son of Nauklaies, N—."

The woman's husband bears the name

ΝΑΤΚΑΑΙΝΣ (?)

ΗΑΤΚΑΕΙΟΤΣ

ΝΑΤ . . . ΕΤΣ (?)

Ναυκλαίης Ναυκλείους, Ναυ—εὐς (?)

"Nauklaies the son of Naukles, Nau...eus(?)." This latter is probably the name of the "deme" or district in Attica, of which he was a citizen.

The faintness of this inscription makes the above readings subject to criticism, and I do not vouch for their absolute accuracy;

but, in the main, I am satisfied with these interpretations. Some scholar may, in the future, take occasion to differ with me, and his readings may be better than mine. I should in that case be very glad.

A discussion of the technique and artistic value of this stele must be qualified by one very important statement. We must constantly bear in mind the fact that only under very exceptional circumstances were great sculptors employed to make these reliefs. We moderns do not, as a rule, employ our greatest sculptors for our tombstones; no more did the Greeks. They chose artisans and stone-cutters to make these monuments. Yet, so great was the technical skill of these workmen, and so universal the feeling for beauty among the Greeks, that these stelae, never by them considered works of art of importance, are to us not only sources of fruitful and profitable study for the archæologist and research-worker in classics, but objects of joy and delight for all who love beautiful things. The existence of such an object in Philadelphia will be a constant reminder that the people who produced it cannot without irreparable loss be thrown into the discard of education. The presence of this stele in the University Museum should be in itself a powerful incentive to the teaching of Greek and Latin in our schools.

S. B. L.

A GROUP OF GREEK VASES

DURING the year 1916 the Mediterranean Section of the University Museum acquired six vases of great importance.

One of these, a red-figured pyxis, or toilet box, was described and illustrated in the last number of the JOURNAL. Another black-figured amphora is reserved for an article in a future number which will include a group of vases in the Museum which illustrate the exploits of Herakles.

A DIPYLON AMPHORA

In the eighth century B. C. there was manufactured at Athens a style of pottery which is known among archæologists of the present day as Dipylon ware. This name has been adopted because the potter's quarter of that period appears to have been in the neighborhood of the Dipylon gate of Athens and because in the vicinity of that quarter quantities of this pottery have been found in the ancient tombs.

The Dipylon ware belongs in that class which is commonly called geometric, because it is covered with decorations, among which may be found straight lines, circles, squares, triangles, zigzags, and rectangular meanders, together with figures of men and animals drawn in a style peculiar to the period.

The collection of Greek vases in the University Museum has always been lacking in examples of Greek geometric ware generally and especially in examples of this Attic geometric or Dipylon ware. Dipylon vases are but rarely found and it is seldom that an American Museum has an opportunity of acquiring a specimen.

It is, therefore, a matter worthy of note that the University Museum has acquired a perfect example of the class. It is an amphora 43.5 centimeters in height, a fair size for vases of the class, although examples have been found of much greater height.

On the lip of this amphora runs a serpentine band of clay in high relief, painted red. This, combined with similar snake-like patterns on each handle and on the shoulder, may possibly point to the serpents sacred to Asklepios, the god of healing, and suggests that the contents of this amphora may have had medicinal properties.

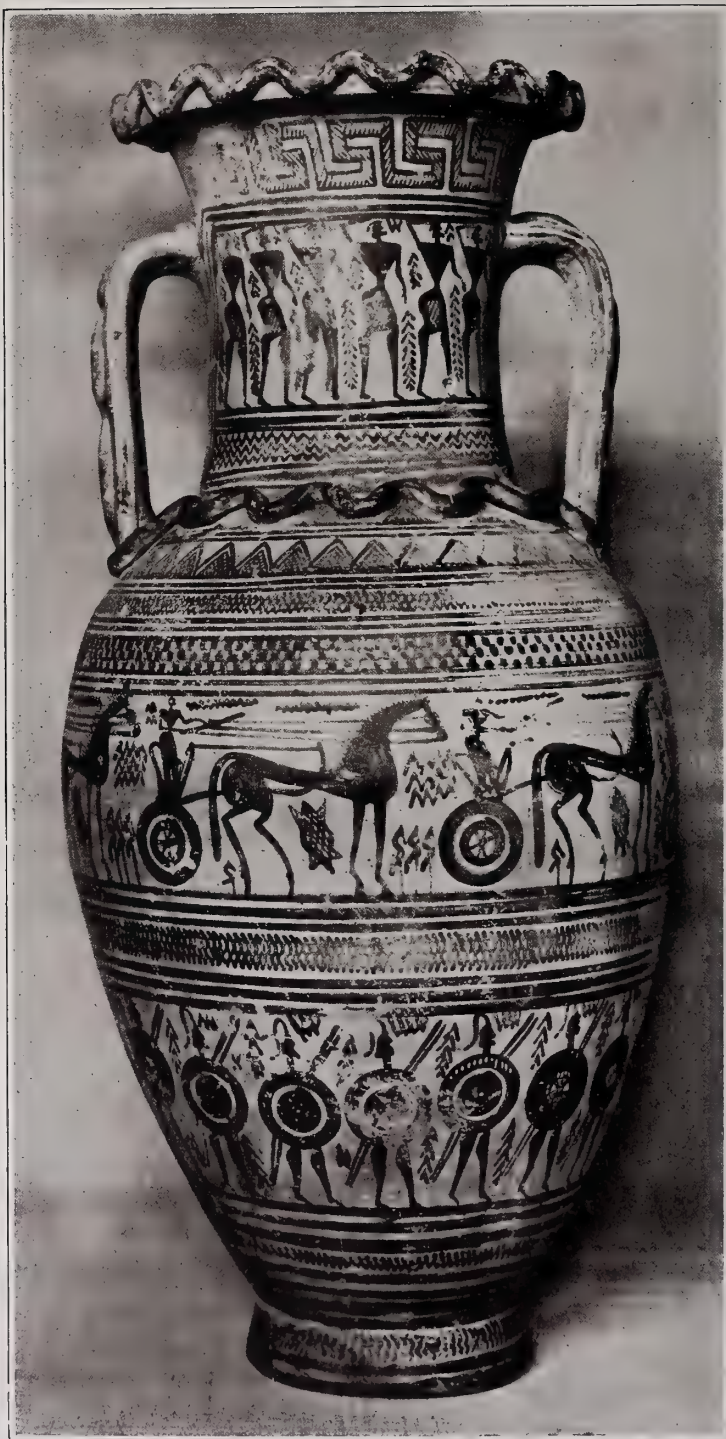


FIG. 2.—A Dipylon Amphora.

This suggestion is not considered probable by the writer; but it is a possibility.

On the neck, from the lip to the junction of the handles, runs a heavy "maeander" or "Wall of Troy" pattern. This is of the color of the clay, enclosed in black lines, which, as is true all over the vase, have turned red in places from over-firing. These outer lines are connected by cross-hatchings of black.

Below this is the principal representation of the neck: a group of men, each with his right arm raised, marching in procession. Notice the geometric drawing of these men and the lack of anatomical knowledge shown; for this drawing is characteristic of the "Dipylon" technique. In the field are ornaments supposed to represent foliage. This same conventionalized foliage is shown on the handles, and in all the bands of decoration where human figures occur. On the reverse women take the place of men in the neck decoration. Underneath these panels on the neck, which are enclosed on all sides by three heavy lines, a scale pattern appears which joins the neck to the shoulder.

As is usual in amphorae, the shoulder and body merge together. At the top, connecting the two handles, is found the serpentine motive, to which reference has already been made, underneath which is a design of triangles. This is separated from the neck by three lines; all of the bands of decoration are separated from each other by lines like these. Under these triangles comes a second set, then a lattice-work pattern, and finally a checker-board pattern. Then follows a typical band of painting, to be found in nearly every Dipylon vase that ever was painted. It is a band of chariots, in the characteristic manner of the period. Again, the geometric drawing both of men, chariots, and horses, should be noticed, especially the elongated bodies of the latter. Notice also the attempt to render both wheels by putting one inside the other. In the field we find more conventional foliage.

Between this band and the next are lines, on either side of a lattice-work pattern. Then comes a band of warriors. This, too, is a very common form of decoration, and almost universally found on vases of this class. These warriors carry the common round shield and spears. This is not always the case; for often on other vases of the same period warriors are shown carrying an enormous shield, in shape much like the body of a violin. This is called a Boeotian shield, from the place of its principal manufacture.

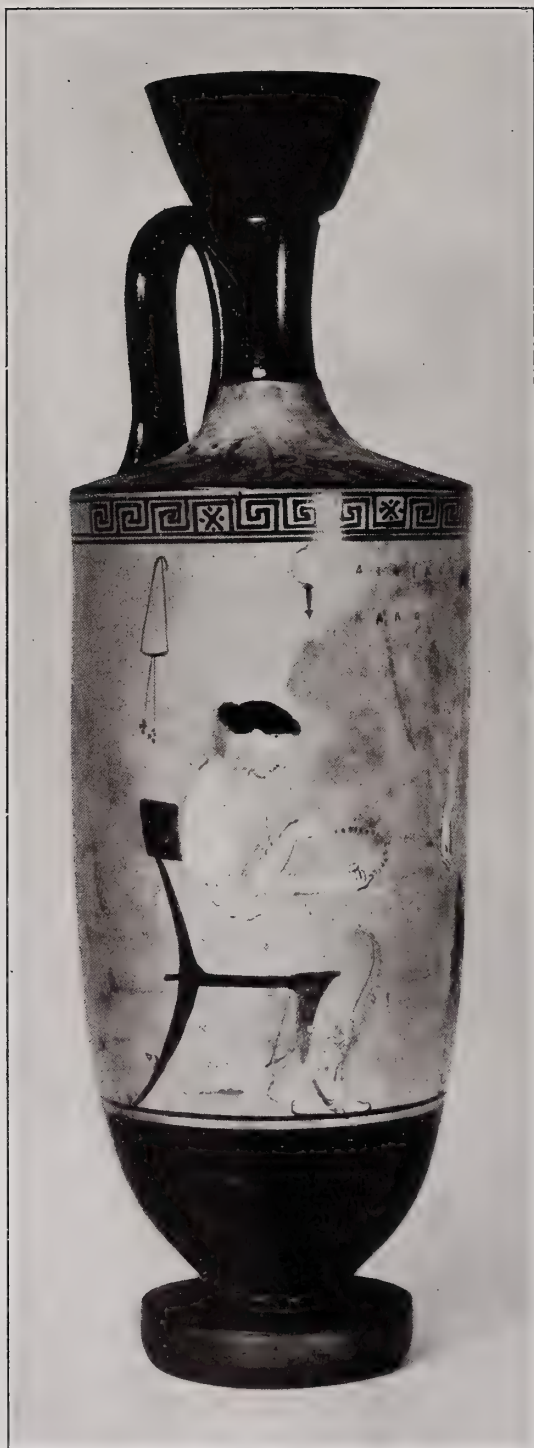


FIG. 3.—An Attic White Lekythos.



FIG. 4.—An Attic White Lekythos.



FIG. 5.—An Attic Red-figured Amphora. Obverse.

Below this band of warriors, and on the foot, are horizontal lines, and a lattice-work pattern.

One point that will at once attract the notice of the observer is, that the chariots, while represented with a pole, seem to be drawn by one horse only. This is in reality not the case; the driver had at least two horses to his chariot, as the number of reins in his hand prove. The archaic vase-painters were not sufficiently versed in the art of perspective to render two horses.

A question arises: from what source does this geometric ware come? Archæologists used to believe that the Dorians, when they invaded Greece, brought with them their own technique of pottery, and that it was this geometric style. This theory has been largely abandoned, and it is now believed that we must go to Crete and Mycenæ for our sources. This belief has been turned almost to certainty by the excavations of Miss Edith H. Hall (now Mrs. Joseph M. Dohan), at Vrokastro, Crete, in 1912, conducted under the auspices of the University Museum. At that site early geometric and post-Mycenæan pottery were found together, showing that they were probably contemporaneous, although it is but just to say that Miss Hall reaches the conclusion that the presence of geometric ware on this site marks the Dorian invasion of Crete. To the writer, it seems more plausible to adopt the conclusion reached by Miss Richter of the Metropolitan Museum in New York, who declares in a recent article that "the post-Mycenæan geometric style is a continuation of the pre-Mycenæan geometric technique."

In acquiring this vase, the University Museum has taken a great step in filling the gap in the continuous study of Greek vase-painting, which should be one of the ultimate goals sought by the Mediterranean Section. For this Attic geometric technique is perhaps as important as any of the later styles; and it is certain that no student can understand the later development of Greek vase-painting, until he can study the earlier specimens. We must constantly refer back to examples of this epoch in the history of Greek ceramics, in order fully to appreciate the excellence of the later periods.

TWO ATTIC WHITE LEKYTHOI

Another of these vases recently acquired also tends to fill a gap in the Museum's collection of Greek pottery. This is an Attic white lekythos (Figs. 3 and 4) of the fifth century B. C. As is well known

to the reader, these vases were not meant for household use; their purpose was strictly funereal, and they have invariably been found in tombs. Moreover, there is a possibility that in the late period of Attic vase painting, the makers and decorators of this class of pottery confined themselves to this branch of the ceramic art; for a passage in Aristophanes' comedy of the "Ecclesiazusae" or "Women in Council" (lines 995, 996) refers to "the man who paints the lekythoi for the dead" (*ὃς τοῖς νεκροῖσι ζωγραφεῖ τὰς ληκύθους*) as if it were all that he did. On the other hand, we have ample evidence that the leading artists of the early red-figured technique were also capable of work in the field of white ground vases. The example recently acquired is, as will be shown, early in style.

The subject of this recent acquisition is of great beauty, simplicity and restraint. At the left sits a woman (Fig. 3) with a circle of beads in her hands; she is evidently stringing them for use as a necklace. The chair in which she sits is of a graceful and beautiful design, and is drawn in a black wash on the cream-colored background. Her hair is rendered in the same manner. She is wearing two garments, a "chiton" and a "himation," the "chiton" being the undergarment. This is rendered in a chalky white, much of which has flaked off, the idea being in this manner naturalistically to show the brilliant white of clean linen. The "himation," being a shawl-like wrap of a heavier material, was rendered in the color of the background. Flesh parts are in this same chalky white, in a manner which, as will be shown, is peculiar to the maker of this vase. Above her, in the field, are hanging a mirror, and a long pouch, drawn together with strings, called by archaeologists a "sakkos."

In front of her stands another woman (Fig. 4), in a long, simple chiton, without sleeves. In her left hand she carries a large tray or basket, from which hang three fillets of white, and two longer ones of red, and which is filled with offerings of various sorts. Her right arm and hand hang at her side, and are most beautifully rendered. Above her in the field hangs an exquisite little pitcher. Between the two women is inscribed the dedicatory inscription, ΔΙΦΙΛΟΣ ΚΑΛΟΣ, "Diphiolos is fair."

Before coming to the Museum, this vase was at one time in the Borelli Bey collection, which was dispersed in Paris in 1913. In the sale catalogue, it is given the number 223, and is published on pl. XXIII. For purposes of convenience, and to avoid con-

fusion with the other white lekythos to be described, this vase will be called in the rest of this article the "Borelli lekythos."

Many vases are known that bear the same dedicatory inscription to Diphilos, and nearly all are white lekythoi. Furthermore, it is possible surely to identify all these lekythoi as by the same hand. The artist uses other dedicatory names as well, of which Dromippos is the principal example; but Diphilos is the most common, and we know his father's name, Melanopos, as some of these vases give it. The artist's principal peculiarity is the use of chalky white for flesh parts, to which reference has already been made.

It is not necessary here to go into details, and show how we can date these "Diphilos" vases: it will be sufficient to point out that they have been proven by such scholars as Bosanquet, Fairbanks and Riezler, to be early in the history of Attic white lekythoi, and it is not without good reason that we can safely put this Borelli lekythos in the period of which the central date is 465 B. C. Nor will it be essential here, scientifically to put this vase into the class in the history of the white ground technique in which it belongs. Suffice it to say that it satisfies all the most rigid tests to which it could be subjected, and may safely be considered by the same hand that painted the fifteen or sixteen other white lekythoi with the same inscription, scattered through the museums of the world, and particularly, of course, in the National Museum in Athens.

Before turning to the second white lekythos, the writer wishes to bring out two points of comparison, on which he will lay much stress. First, we should notice the shape of the Borelli lekythos. Much of the dating of these funeral vases is based, not only on the technique of the drawing, and, in this case our knowledge of the identity of the person to whom the vase is inscribed (but such dedicatory inscriptions are very rare on white ground vases, which makes this vase all the more important), but on the shape of the vase. In this example, it is well nigh perfect, in the relation of the length of the neck to that of the body, in the beautiful bell-shaped mouth and gently sloping shoulder. It represents the very acme of the lekythos shape.

The other point is in the white ground and its composition. In this specimen, we find a hard, firm slip of cream color, perfect in preservation, unbroken and of extreme beauty. The early white lekythoi are all marked by this fine white ground.

The second vase has, as its design, two figures making offerings



FIG. 6.—An Attic Red-figured Amphora. Reverse.

at a stele. Not meriting publication in itself, it nevertheless is important for purposes of comparison with the example just described. In the Borelli lekythos, we have the perfection of form of the early (and best) period; here, the neck is too long for the body, the body, in its turn, too short and attenuated for the neck, and the whole shape marked by carelessness of execution.

We notice, too, a great change in the texture of the white ground. In the Borelli vase, we commented on the firm, hard, and slightly lustrous slip of cream color. The vase painters of the period in which this specimen was made had either lost or discarded the art of creating such a white coat. Here we find the white to be extremely chalky and dead, easy to rub off, and, for that reason, hard to preserve. The design was originally very brilliant, as the vase was made at an epoch when polychromy had attained a great range; but owing to the poor quality of the slip, most of this has disappeared.

This comparison goes to show the great beauty and importance of the white lekythos recently acquired by the Museum.

TWO ATTIC RED-FIGURED AMPHORÆ

At the same time that the vases already described were obtained, the Museum also acquired two other amphoræ. These are of the Attic red-figured technique, and were made in the middle of the fifth century B. C.

One was found at Capua, which at the time this vase was made, was probably still under the Etruscans. It must have already begun to have the reputation for luxury which it certainly had two centuries later, and which became proverbial. Quantities of beautiful Attic red-figured vases have been found in tombs of this period at Capua, most of which are now in the Museo Nazionale at Naples. Capua was founded, according to tradition, by the Etruscans, about 600 B. C. Just after this vase was painted, or, in other words, in the last half of the fifth century B. C., the Etruscans lost the city to the Samnites, who soon became dependents of Rome. If our surmise is correct, this vase marks the last stage in the Etruscan domination, when commerce with Attica was still flourishing.

To return to the vase itself. Under the handles and on the neck are beautiful designs of palmettes. On the obverse (Fig. 5) we find two deities on either side of an altar. They are easily



FIG. 7.—A "Nolan" Amphora. Side A: Apollo.

identified as Apollo, with his lyre, and his sister Artemis, with her bow and arrows. Apollo holds a phiale, or patera, in his right hand; he is pouring a libation on the altar. Artemis does the same, from an œnochoe, or pitcher, in her right hand. Both wear beautiful and elaborate draperies, very carefully executed and falling in graceful folds. The drapery in each case consists of the "chiton" and the "himation," which were explained in that portion of this article which dealt with the white lekythos. The himation of Apollo is especially elaborate and carefully rendered.

On the reverse (Fig. 6) is a different scene. At the right is Dionysos, the god of wine, bearded, and with a wreath of ivy on his head, draped in a chiton and a long himation. He stands in an attitude of calm, with his thyrsos in his left hand and wine-cup or kantharos in his right, in marked contrast to the "fine frenzy" of the Maenad, or Bacchante, who rushes towards him. She is clad in a long sleeved chiton, over which is the traditional panther skin. In one hand she grasps a serpent, in the other (which does not appear in the photograph) she holds an œnochoe, or pitcher. Her hair, dressed in long ringlets, flies behind her.

The technique of this vase points to the first half of the fifth century B. C., the "strong style" of the Attic red-figured period. That this is true is proven by the drawing of the eye in the various figures. The artist does not know how to render accurately the eye in profile; but he knows too much to put it in full face, as do the earlier red-figured artists of the "severe" style. This would point to the end of the first half of the fifth century B. C., as a good date for this vase. Until this amphora was acquired, the Museum had no very good examples of this period, other than one or two kylikes, or drinking-cups; so that this vase, like the others described, is a most important accession.

The other red-figured amphora (Fig. 7) is of the shape called "Nolan," from Nola in Campania, where the earliest examples of this shape were found, and which has continued to yield the greater number of specimens of this type. The provenance of this amphora is unknown, but it probably came from an Italian site. It is probably of later date than the vase from Capua, as is shown by the more correct drawing of the eye, and the fact that while great care is expended on one side, the other is carelessly drawn, showing that only one side was meant to be seen and examined closely.

The front picture is of Apollo. He stands before an altar, in a

very erect position, with his lyre in his left hand, and a phiale, or patera, in his right. He wears a long chiton of fine linen, the quality of which is admirably indicated by the great number of lines which break up the light material into countless folds. Above that is a himation of heavy material, perhaps wool, fastened at the right shoulder by a brooch. The texture of the material, and the heavy folds into which it falls are admirably reproduced by a most judicious use of a relatively small number of lines. From the himation, on the right, falls a stole-like object, ending in a fringe. On his head is a wreath of laurel. On the reverse (not illustrated), is a woman with a pitcher, very carelessly drawn.

Until this vase was acquired, the Museum had no specimen of the "Nolan" amphora shape on exhibition, which gives the accession of this vase an additional interest.

S. B. L.

THE EPIC OF GILGAMISH

IN the year 1914 the University Museum acquired by purchase a Babylonian tablet of quite exceptional interest and importance.

It measures $6\frac{1}{4}$ inches by 7 inches and is in a good state of preservation. Obverse and reverse are fully inscribed and only a few lines of the inscription are missing. The place where it was found is not known. It was written in what is called the Neo-Babylonian and Persian period at some time between the sixth century B. C. and the third century B. C. and contains a portion of the great epic of Gilgamish. The importance of this tablet arises from the fact that it contains, with the exception of a few lines, the entire second book of the epic, a book which is missing from the famous fragments in the British Museum. It therefore enables us to restore a lost section of the great poem.

When the British excavators found the great library of Asurbanipal at ancient Nineveh, one of the most important discoveries that came to light was a series of twelve tablets or fragments which in its complete state had contained the most famous epic of the ancient Babylonian world.¹ Of these twelve tablets and fragments, certain numbers were missing, and among these was No. II in the series. It is the text of this tablet No. II that is contained on the tablet in the University Museum.

The physical structure of the tablet is that common to epical literature and was first adopted by the Sumerians, the six column form. But there is one new element in the making of this document which I have not seen before. On the left edge near the top and bottom two flat clay knobs have been attached. A similar knob in perfect condition remains on the upper edge near the left side.

I believe that these little clay knobs were attached in order to enable the scribe or a reader to hold the tablet by the left upper corner more easily. These projections are so placed that the left hand enclosing the left upper corner grasps one knob with the forefinger and the other with the thumb. When the tablet is turned over vertically and the lower side is then at the top, according to

¹ The tablets in the British Museum were published by Professor Paul Haupt, and translated into German by Jensen and into French by Dhorme.

the Babylonian method of turning tablets, then the lower left corner becomes the top left corner. In that position the knob on the lower left edge served for the thumb and one, now broken away on the lower edge near the left side served for the forefinger.



FIG. 8.—The Epic of Gilgamish. Tablet in the University Museum.

The epic of Gilgamish was produced about the twenty-second century B. C. and has been generally accorded a high rank in universal literature. In the age when the Babylonian poets created this great poem of pessimism the old Sumerian civilization was passing away. That highly endowed and peace loving race ended

its career in a passion for emperor worship and the deification of temporal rulers in whom they saw men divinely sent to restore the golden age, to end sorrow, toil and pain. But events belied their claim and a wave of pessimism overcame the hopes of mankind. The epic of Gilgamesh was written with the major motif of showing how not even a demigod who partakes of the nature of mankind can by the most heroic efforts escape the terrors of pain and death. To teach the world this view of life the Babylonian poets chose an ancient, half mythical king of Erech, Gilgamesh. Erech is mentioned in Genesis X as the home of Nimrod, and because in Babylonian and Sumerian legend, Gilgamesh is invariably connected with the same place, it is generally supposed that Nimrod and Gilgamesh are the same. Our chief source for the text has been the copy made by the scribes of Assyria for the library of Asurbanipal in the seventh century B. C. which, as already mentioned, was found at Nineveh and is now in the British Museum.

The tablet in the University Museum belongs to a south Babylonian version, probably the one accepted at Erech and differs from the Assyrian text, as we know from those parts wherein the new text is a duplicate of the Assyrian. Including the new tablet in the series we are now able to reconstruct the following outline of the epic.

Book I begins with the line "He that has seen all things . . ." and consequently the Babylonians always referred to the epic as *ša nagba imuru*, "He that has seen all things." The poet sings of the vast intelligence of this ancient king Gilgamesh, he who saw the mysteries and the hidden things.

"He concerned himself with the wisdom before the Flood.

He took a far journey, painfully. . . ."

He was two-thirds god and one-third human and was the son of a mortal and the mother goddess Ninsun, worshipped at Erech as the local *bēlit* or lady. He became a hunter and was called the "shepherd of Erech." Taking advantage of his superhuman powers he ruled cruelly over the people, who appealed to the gods for deliverance. Aruru, the mother goddess, is invoked to create a rival to oppose the cruel king that "They may rival each other and Erech have repose." And so this goddess, to whom the creation of man from clay was attributed, took clay and fashioned Enkidu the hero, a wild satyr whose body was covered with hair. He represents in our

story the pastoral stage of civilization, and from this point in the first book to the end of Book II the principal motif is to show how the rude barbarian of the fields loses his attachment for the chase, the tending of the flocks, and enters civilized society.

"He knew not the peoples nor the land; clothed in a garment like
Gira,¹
With the gazelles he ate grass."

He also abused his might, breaking the traps of the hunters and frightening the peaceful shepherds on the plains of Erech. And so a hunter and herdsman of Erech complained to his aged father and sought advice. His father commands him to lure the wild giant by means of a beautiful harlot.

"He will behold her and draw nigh unto her.
His cattle will become estranged from him, they that grew up on
his plains."

The hunter also consults Gilgamish, the king, telling him of the barbarian who came from the mountain afflicting the peaceful plains. Gilgamish gives the same advice, and so the hunter leads a voluptuous harlot a three days' journey to the hills to a watering place where Enkidu watered his flocks.

The plot succeeds. Enkidu becomes enamored of the harlot. For seven days he falls to the enticement of the woman who represents the lure of civilization. When he returns to his flock, they know him not and flee as from a stranger.

"He turned back and sat down at the feet of the harlot.
The hierodule looked upon his face.
And as the hierodule speaks his ears hear.
. . . as he spoke unto him even unto Enkidu.
'Thou art beautiful oh Enkidu, even as a god thou art.
Why with the cattle dost thou wander in the plains?
Come, I will conduct thee into the midst of Erech of the sheepfolds.
Unto the pure temple, dwelling place of Anu and Ishtar,
Where Gilgamish is perfect in strength,
And like a wild ox oppresses the people.' "

¹ A satyr, god of the flocks. The copy used for the text is that by Dr. Paul Haupt.

Enkidu, abandoned by his flocks, agrees to enter the city with the woman. They arrive at Erech on a festive day. The harlot tells him of the beauty of Gilgamish as they walk toward Erech; she urges him to change his evil ways of life. Here she relates to him the dreams of Gilgamish in which he is forewarned concerning the advent of Enkidu, created to oppose him, but destined to become his companion in heroic adventure. We are now well into the latter part of the first book of the Assyrian version.

The new tablet in the Museum now runs as follows, beginning with the harlot's recital of the dreams of Gilgamish.

"Gilgamish arose, interpreting dreams and addressing his mother. 'My mother, during my night I, having become lusty, wandered about, in the midst of omens. And there came out stars in heaven. Like a . . . of heaven he fell upon me. I bore him, but he was too heavy for me. He bore a net but I was not able to bear it. I summoned the land to assemble unto him, that heroes might kiss his feet. He stood up before me and they stood over against me. I lifted him and carried him away unto thee.'

"The mother of Gilgamish, she that knows all things, said unto Gilgamish, 'Truly oh Gilgamish he is born like thee on the plain. The mountains have reared him. Thou shalt behold him and be distracted. Heroes kiss his feet. Thou shalt spare him. . . . Thou shalt lead him to me.'

"Again he dreamed and saw a second dream and reported it unto his mother. 'My mother, I have seen another dream. I beheld one like me in the street. In Erech of the wide places he hurled an axe, and they assembled about him. Like another axe seemed his visage. I saw him and was astounded. I loved him as a woman, falling upon him in embrace. I took him and made him my brother.'

"The mother of Gilgamish, she that knows all things, said unto Gilgamish: '. . .¹ that he may join with thee in endeavor.' So Gilgamish solved his dream. Enkidu sitting before the hierodule . . . forgot where he was born. Six days and seven nights came forth Enkidu and cohabited with the courtesan. The hierodule opened her mouth, speaking unto Enkidu. 'I behold thee Enkidu; like a god thou art. Why with the animals wanderest thou on the plain? Come, I will lead thee into the midst of Erech of the wide

¹ About one line broken away.

places, even unto the pure temple, dwelling place of Anu. Oh Enkidu arise! I will conduct thee unto Eanna dwelling place of Anu, where Gilgamesh [oppresses] the souls of men (?). And as I . . . thou shalt . . . thyself. Go up thou from the ground unto the place yonder(?) of the shepherd.'

"He heard her speak and accepted her words with favor. The counsel of the woman fell upon his heart. She tore off a garment and clothed him therein. With a second garment she clothed herself. She clasped his hand, guiding him like . . . into the mighty presence of the shepherd, unto the place of the . . . of the sheep-folds. In . . . to shepherd. . . .¹ Milk of the cattle he was drinking. Food they placed before him.² He break bread, gazing and looking. But Enkidu understood not. Bread to eat, beer to drink, he had not been taught. The hierodule opened her mouth



FIG. 9.—Enkidu and the Lion. After Ward.

and said unto Enkidu. 'Eat bread oh Enkidu, it is the conformity of life, the condition and the fate of the land.'

"Enkidu ate bread until he was satiated. Beer he drank, seven times (??) His thoughts became unbounded and he shouted loudly. His

heart became joyful and his face glowed. He stroked . . . the hair of his head(?). His body with oil he anointed. He became like a man. He attired himself with clothes even as does a husband. He seized his weapon, which overpowers the lion, which fells in the night cruelly. He captured the wild mountain goats. The panther he conquered. Among the great sheep for sacrifice Enkidu was their guard; he a man, a leader, a hero. Unto . . . he elevated. . . .³ He made glad. He lifted up his eyes. He beheld the man and said unto the hierodule. 'Oh harlot, take away the man. Wherefore did he come to me? I would forget the memory of him.' The hierodule called unto the man, and came up to him regarding him. She sorrowed and was astonished how his ways were [*rude?*].

¹ About two lines broken away. Here Enkidu and the harlot behold Gilgamesh at a distance.

² *i. e.*, Gilgamesh.

³ About five lines broken away.

Lo, she opened her mouth, saying unto Enkidu, 'At home with a family [*to dwell?*] is the fate of men. Thou shouldest design boundaries(?) for a city. The trencher basket put upon thy head. . . . an abode of comfort. Unto the king of Erech of the wide places reveal, addressing thy speech as unto a husband. Unto Gilgamish king of Erech of the wide places reveal addressing thy speech as unto a husband. He cohabits with the wife decreed for him, even he formerly. But henceforth in the counsel which god has spoken, in work before his presence shall be his fate.' At the mention of the hero his face became pale . . .¹ going . . . and the harlot . . . after him. He entered into the midst of Erech of the wide places. The artisans gathered about him. And as he stood in the street of Erech of the wide places, the people assembled disputing round about him. 'How is he like become Gilgamish suddenly? In form he is shorter. In . . . he is made powerful. . . .' Milk of the cattle he drank. Continually in the midst of Erech weapons the heroes consecrated. A project was instituted. Unto the hero whose countenance was turned away, unto Gilgamish like a god he became a companion.

"For Išhara² a couch was laid. Gilgamish . . . in the night . . . in embrace. They (?) in the street halting at the . . . of Gilgamish. . . . mightily. A road . . . Gilgamish . . . in the plain . . . his hair growing thickly like corn. He came forth into . . . into his presence. They met in the wide park of the land. Enkidu held fast the door with his foot, and permitted not Gilgamish to enter. They grappled with each other goring like oxen. The threshold they destroyed. The wall they demolished. Gilgamish and Enkidu grappled with each other goring like oxen. The threshold they destroyed. The wall they demolished. Gilgamish bowed to the ground at his feet and his javelin reposed. He turned back his breast. After he had turned away his breast, Enkidu unto him spoke, even unto Gilgamish. 'Even as one distinguished did thy mother bear thee, she the wild cow of the cattle stalls, Nunsunna, whose head she has exalted more than a husband. Royal power over the people Enlil has decreed for thee.' "

This new section of the epic brings the original plan of the story in Book I to its *dénouement*. Enkidu and Gilgamish strive with

¹ About five lines broken away.

² One of the unmarried mother goddesses, originally patroness of canals and water animals.

each other "that the land might repose." But a very interesting motif is worked into this book, the story of the conversion of Enkidu to the ways of civilized man, a conversion brought about by the love of woman. Gilgamesh is at first shocked by the manners of the satyr, but the woman teaches him the customs of men. Even then Gilgamesh cannot overcome his aversion for his newly learned manners, and orders him to be banished. Once more the faithful woman instructs him in the conventions of life. The people are enthusiastic about his heroic presence. Finally he and Gilgamesh become reconciled. They dedicate their arms to an adventure.

Here a new motif is worked into the epic, the passion of Gilgamesh for the divine Išhara. Apparently Enkidu intervenes to save his friend from effeminate influence for a violent conflict arises in which Enkidu strives to prevent Gilgamesh from entering his house. Gilgamesh is overcome and they are again reconciled.

Enkidu is sometimes represented on seals as a satyr, with hind legs and tail of a bull. Sometimes his headdress is also decorated with horns of a bull. On one of the seals which illustrate the conflict a nude woman stands beside the struggling heroes. It seems not unreasonable to suppose that this glyptic scene illustrates the effort of Enkidu to rescue his friend from the goddess. In fact the satyr stands between Gilgamesh and Išhara on the seal. One of the unplaced fragments in the British Museum tells of Enkidu's own revolt against the effeminate influence of women and he curses the hierodule whose devotion had served him so effectively. And Shamash, the sun god, is astonished at his ingratitude.

"Why oh Enkidu cursest thou the harlot, her the hierodule,
Her that gave thee to eat food that would be acceptable to the gods?
Wine she gave thee to drink, seemly unto kings."

At the end of Tablet II the heroes proclaim their purpose of making an expedition to the far East where in the cedar forests dwells the terrible Humbaba, probably an ancient king of Elam, traditional foe of Sumer and Akkad. It is probable that Enkidu becomes the advocate of puritanic living in view of this warlike venture. At this point Gilgamesh in a dream penetrates the mysteries of the life beyond the grave and Enkidu also sees in a dream the existence of those who dwell in the nether world.

"He led me unto the house of darkness abode of Irkalla.¹
 Unto the house whence he that enters departs not.
 Upon the road whose going returns not.
 Unto the house whose occupant is deprived of light."

Thus in the early part of the epic the terror of death which forms the principal theme of the later part of the story is vividly portrayed.

Before the heroes depart for the conflict with Humbaba the goddess Ninsun laments their departure, weeping before the Sun-god.

"Why hast thou done so for Gilgamish my son, a restless heart placing within him.

Now thou hast touched him and he goes

Upon a far journey to the place of Humbaba."



FIG. 10.—The Combat of Gilgamish and the Bull. From a Seal Cylinder. After Ward.

Tablet V in the British Museum relates the conflict with Humbaba and the death of their foe. After the battle the beautiful goddess Ishtar is captivated by the beauty of Gilgamish and desires him for her husband. But Gilgamish now like Enkidu has put away the sensual joys of life. He rejects her proposal and taunts her concerning her faithless career. Here follows the episode which most commonly figures upon seals from the earliest Sumerian and Semitic period. Ishtar enraged appeals to her father Anu, the heaven god, who creates a divine bull to slay the offensive Gilgamish. The seal cylinders depict this struggle with the bull sometimes representing Gilgamish in single combat, sometimes both heroes in combat with the bull, or more often as in the fine seal of the Sargonic period in our Museum Gilgamish in combat with the bull and Enkidu with

¹ Queen of the lower world.

a lion. The latter motif is taken from Book II represented by our new tablet.

Such are the principal events and cultural ideas developed in the first six books of the Epic of Gilgamish or the poem "He who has seen all things." The remaining books tell of the death of Enkidu, the sorrow of Gilgamish and his search for the plant of life, whereby he might escape from the fate common to all men. The moral of the epic is that there is no escape and that the loss of Paradise which according to the well-known Sumerian epic was ended by the Flood brought

about by the sins of mankind was an irretrievable disaster. Disease and death brought upon man by the survivor of the Flood because he had eaten of the "plant of fate" are forever the fate of all men.

That portion of the poem that is written on the tablet in the Museum is important not only because it fills up a gap in the epic



FIG. 11.—Impression of a Seal Cylinder in the University Museum. Maxwell Sommerville Collection.

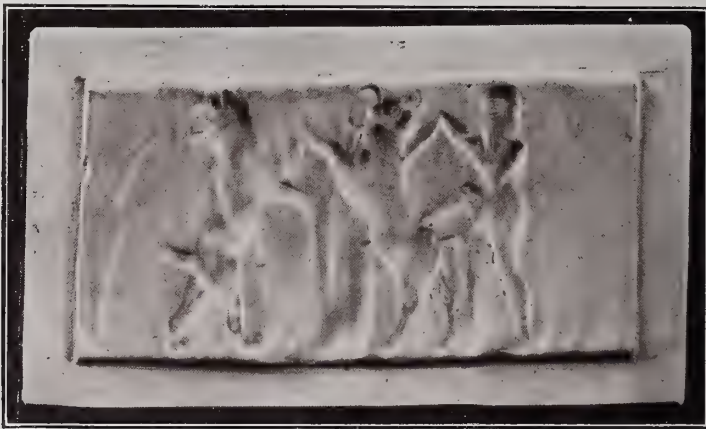


FIG. 12.—Impression of a Seal Cylinder in the University Museum. Maxwell Sommerville Collection.

but because it reveals one of its principal minor motifs. Man redeemed from barbarism by the love and devotion of woman is the subject of this tablet. It enables us now to understand more clearly the later ideas which the poet includes in his finely conceived work.

S. L.

A RITUAL OF ATONEMENT FOR A BABYLONIAN KING

IN Babylonian religion the rituals of the private confessional and atonement were characterized by mystic and magic ceremonies accompanied by prayers usually recited by the penitent. The world has inherited a large number of these private rituals and prayers, which often combine pure religious sentiment with a high degree of literary perfection. Dr. Myhrman has published one such tablet (No. 1519) in the Museum's collection. It contains a prayer of the ill-fated king of Babylon, Shamash-shum-ukin, the Sammuges of the Greeks, who ruled as suzerain of Asurbanipal, king of Assyria, from 668 to 647 B.C. No ritual is mentioned, but we know from the official directions, written for the guidance of the priests who directed the ceremonies of atonement, that these rituals were prescribed in such cases upon separate tablets.

The Museum possesses also a much larger tablet (No. 1203) originally containing at least one hundred lines, written for a private confessional of this same king, but of a more mystic character than No. 1519. It contains a ritual which continued for two days.

The name Shamash-shum-ukin is associated with one of the greatest of historical tragedies. Being the eldest son of Asarhaddon he failed to receive recognition from his father and the court advisers in Nineveh as successor to the throne of Assyria, probably because his mother was a Babylonian princess. In consequence his younger brother the famous Asurbanipal, the Sardanapalus of the Greeks, became king of Assyria and of the vast Assyrian empire, including all of Babylonia which had been conquered and reduced to an Assyrian dependency by Senecherib, father of Asarhaddon. Asurbanipal appointed his brother Shamash-shum-ukin to the ancient throne of Babylon, where he ruled for sixteen years as a loyal representative of sovereign Assyria. If the great southern kingdom had remained faithful to the Sargonic dynasty at Nineveh this powerful Semitic empire might have resisted the less civilized Persian hosts of Cyrus and the culture of the Assyro-Babylonian peoples might have endured far into the Christian era. In that event the history of the world would have been different. But yielding to the ever

rebellious tendencies of Babylonian and Elamitic intriguers, Shamash-shum-ukin organized a vast rebellion in 652 B. C., involving all the discontented elements of the Assyrian empire. After five years of a horrible civil war, Babylon was captured and the unfortunate son of Asarhaddon perished in the flames.

The inscriptions of this king of Babylon are scant. The text published by Myhrman and the one to which attention is now first called are the only known documents written for the king's use in his private devotions. Both were purchased by the Museum in 1898. The prayer on tablet 1519 was copied into the prayer books of Assyria, where it was used by ordinary laymen with omission of the six lines which refer to Shamash-shum-ukin. Addressed to the sun god it appears to contain references to the civil war.

“The wide dwelling peoples, they the dark heads, sing of thy heroism.
The lonely man thou didst cause to have a comrade.
Unto the unfortunate man thou hast given an heir.
For those in bondage thou hast opened the bar of heaven.
For those that see not thou makest light.
The obscure tablet, the unrevealed thou readest.
On the sheep's liver thou causest oracles to be written.
Oh judge of the gods lord of the heaven spirits.”

These lines serve as an excellent example of the kind of prayers employed in the Babylonian rituals of atonement and in their religion.

The large tablet 1203 illustrates a very different type of atonement. The service is accompanied by much magic and the long address of Shamash-shum-ukin to the fire god and the sun god is based almost entirely upon demonology and symbolic magic. The text illustrates how ineradicable these ancient beliefs in devils and magic are in every great religion. On the one hand, the king in this text addresses the sun god in a prayer of the most spiritual type for his sins, transgressions and political troubles. On the other hand, the same text is one of the best examples of atonement by symbolic magic.

To rightly understand the importance of this newly discovered tablet, a few details concerning the mystic rituals should be explained. The priests of magic who presided over all the rituals of private atonement possessed two long series of incantations in which the

sinner was purged, healed and atoned by fire. These were known as the *Maklû* or "Burning" ritual and the *Shurpu* or "Fire" ritual. When these rituals were employed the penitent usually made images in tallow, dough, wood, etc., of the devils, witches and evil spirits which he supposed had obtained possession of his body. And as he burned these images in fire he recited curses against the demons. By sympathetic magic he thus supposed that the devils themselves were consumed in fire and driven from his body. The ritual written for the use of Shamash-shum-ukin is apparently based entirely upon the great *Maklû* series, and many lines of that well-known book of incantations are restored by means of the new text.

In his long address of over seventy lines the king complains in the following terms.

"They encompassed the earth at my feet, the measure of my form they measured.

Images of me, be it of tamarisk, cedar, tallow or honey, lo they made.

Images of me in a cavern in the west they concealed.

Images of me in a potter's oven they burned.

Images of me at the crossways they concealed.

Oh may the sun god break the sorcery of my sorcerer and sorceress, of my wizard and witch.

May (the fire god and the sun god) catch them at their evil doings and shatter them like an earthen jar.

May they die and I live.

May they quake and I stand fast.

May they be bound and I be freed.

By thy command, which is a thing divine, and changes not, and by thy true grace which alters not

I Shamash-shum-ukin, son of his god, thy servant would live and prosper.

Thy greatness I will extol, thy praise unto wide dwelling peoples I will sing.

Oh sun god exalt the magic curse which Nudimmud, counsellor of the gods, has made."

According to the ritualistic directions attached to this incantation the priest made fifteen images of fifteen devils from tallow, dough, clay, etc. and burned them on a censer, while the king recited his

long list of grievances and petition to the fire and sun gods. Thus the Babylonians cast out devils. As the images of the demons melted in the flames of the fire god they themselves rushed from the body of the sinner as he prayed and left him pure and at peace with his god.

The famous legend of the seven devils current in antiquity was of Babylonian origin, and belief in these evil spirits who fought against the gods for the possession of the souls and bodies of men was widespread throughout the lands of the Mediterranean basin. Here is one of the best known descriptions of the seven demons; the text is imperfect.

"Of the seven the first is the south wind. . . .
 The second is a dragon whose open mouth
 The third is a panther whose mouth spares not.
 The fourth is a frightful python
 The fifth is a wrathful . . . who knows no turning back.
 The sixth is an onrushing . . . who against god and king [attacks].
 The seventh is a hurricane, an evil wind which [has no mercy].

The Babylonians were inconsistent in their description of the seven devils, describing them in various passages in different ways. In fact they actually conceived of a very large number of these demons and their visions of the other evil spirits are innumerable. According to the incantation of Shamash-shum-ukin fifteen evil spirits had come into his body and

"My god who walks at my side they drove away."

The reader has observed in a citation above that the king calls himself "the son of his god." We have here one of the most fundamental doctrines of Babylonian theology, borrowed originally from the religious beliefs of the Sumerians. For them man in his natural condition, at peace with the gods and in a state of atonement, is protected by a divine spirit whom they conceived of as dwelling in their bodies along with their souls or "the breath of life." In many ways the Egyptians held the same doctrine, in their belief concerning the *Ka* or the soul's double. According to the beliefs of the Sumerians and Babylonians these devils, evil spirits and all evil powers stand forever waiting to attach the divine genius with each

man. By means of insinuating snares they entrap mankind in the meshes of their magic. They secure possession of his soul and body by leading him into sin, or bringing him into contact with tabooed things, or by overcoming his divine protector with sympathetic magic, which Shamash-shum-ukin complains about in the tablet. These adversaries of humanity thus expel a man's god, or genius and occupy his body. These rituals of atonement have as their primary object the ejection of the demons and the restoration of the divine protector. Many of the prayers end with the petition, "Into the kind hands of his god and goddess restore him."

Representations of the seven devils are somewhat rare. The University Museum possesses one of the three known figurines which represent a demon of the wind. It has, like the wind demon of the Louvre and that of the British Museum, four wings extending from the back shoulder blades. The British Museum figurine represents the demon of the winds with body of a dog, scorpion tail, bird legs and feet. Its upper limbs, those of a dog, are represented in the same attitude as in the figurine in this Museum. The head, however, is a mythical composition, half human, half dog, with savage aspect, huge grinning mouth, flat nose and wide ears. The Louvre demon has the same bird legs and claws, the same four wings but the lean gaunt body is human, and so are the hands, represented in the same attitude, the right raised to attack the soul of man and the left held hanging tensely, ready to hold its prey. The head of the Louvre demon has the horrible aspect of a mad creature, half dog, half human, with snarled mouth showing two long canine teeth. The figurine in the University Museum resembles closely that of the British Museum and probably represents the demon of the south wind, the spirit of the hurricanes which blew across Mesopotamia from the Persian Gulf and the Indian Ocean. The upraised right paw and the awaiting left paw are clearly those of a dog, and the lower limbs terminate in heavy bird claws. As to the lower limbs themselves, there does not seem to be any indication of feathers, but one expects more aviative characteristics in a figure which represents the wind and we may



FIG. 13.—A Babylonian Winged Devil.

suppose that the oxidation has obscured their birdlike character. The body is apparently that of a dog and it has a scorpion tail similar to the figure of the British Museum. The head, however, resembles the horrible menacing composition of the Louvre demon.

On the head of each of these three known figures of the wind demons is attached a small pierced disk. The owner probably passed a string through this aperture and hung the figure in his house as a charm against the demons. Nevertheless each is posed upon a small platform which enabled the figure to stand wherever it was placed.

S. L.



EGYPT.
The Eckley B. Coxe, Jr., Expedition.

EXCAVATIONS AT GIZEH

THE ECKLEY B. COXE, JR., EXPEDITION TO EGYPT

THE Royal Cemetery of Gizeh occupies many acres of the high plateau behind the Great Pyramid, and its clearance has been nearly completed by the various expeditions among which it has been divided.

That part of the cemetery excavated by the Eckley B. Coxe, Jr., Expedition of the University Museum was a part of that section previously assigned to the Harvard Boston Museum Expedition, lying along the extreme northwest edge and enclosed on the east, south and west by mastabas of the Cheops period. These were arranged in parallel rows and were obviously built on regular plots of ground assigned by the king to his chief officials. The area which we excavated contained tombs of priests and minor officials. The regularity of the more important cemetery was lacking and it was clear from the overlapping and rebuilding of many of the tombs that the area had been used over a long period.

The sepulchral portions of the tombs were the common type of the period. All the shafts were carried down to a depth of two to six meters into the rock, and it is interesting to note that this was done after part at least of the superstructure of the mastaba itself had been completed. At the bottom of each shaft was a small rock chamber, sometimes scarcely more than a recess. This usually opened from the west side, but in our cemetery this rule was adhered to only when the position of a shaft or chamber of a neighboring tomb did not interfere. In the older tombs which we cleared the burial itself was in a shallow pit sunk in the floor of the chamber. In this cavity was placed the body, sometimes enclosed in a plain wooden coffin, and the pit was then covered with rough slabs of stone. Many tombs had been disturbed by grave robbers, but even those which had remained intact contained, with a few exceptions, no pottery or other funerary objects. Nearly all the pottery found came from the débris either in the shafts or in the offering chambers.

One of the most important mastabas was found near the south-east corner of the area. It had a rubble core, with shafts and exterior walls faced with mud bricks. An offering chamber was built against

the east façade, which contained a series of niches. Against the two southern niches had later been erected a limestone niche (false door) and a relief. The relief is a portrait of the owner, a certain Medady, who is described as "acquaintance of the king, companion of the commander of the army." The niche stele was more interesting. In the upper panel (Fig. 15) is a low relief representing a woman seated in the usual manner before a table of offerings; above is her name and position, "Concubine of . . . (?), priestess of Wep-wat, Kha-khenmet." Across the lintel is a list of offerings, including wine, figs, etc. Below on the pseudo-log lintel her name appears again, "Kha-khenmet." In the niche itself the woman is standing, with the inscription, "Kha-khenmet, priestess of Hathor, the Mistress of the Sycamore (i. e., Hathor of the Pyramids)." In the left panel she appears again with the inscription, "Acquaintance of the king, revered before the great god, his (i. e., Medady's) beloved wife Kha-khenmet." In the right panel is Medady himself with practically the same inscription as that on his own portrait stele. The tomb therefore belonged to a minor official and his wife or concubine. These two terms are here used interchangeably, and we know from other inscriptions of the same character that this relationship was not uncommon and that the position of concubine, a sort of second wife, carried no stigma.

In a small space between the offering room of the Medady mastaba and one of the large Cheops mastabas east of it, a beautiful little statuette was found (Fig. 16). This portrait statuette is perfectly preserved and still has the coloring in fresh condition. The skin is painted red, the wig and eyes black; the skirt and collar have lost part of their original yellow color. On the base is inscribed, "Overseer of boats (?), Mesty."

Near the north end of the cemetery were two small mastabas belonging to a priest Ruwz and his relatives. The two tombs did not adjoin one another. That of Ruwz and his wife was built against the north side of a fine stone cased mastaba, while that of his father and mother lay to the southwest, separated by a space from that of Ruwz himself. Both tombs were of mud brick construction throughout, and that of the parents had the offering chamber arched with mud bricks on which reeded decoration was worked in mud plaster. In the rooms were three niches and on the floor were three offering basins of limestone. The first bore the following inscription around its rim: "May the king and Anubis,



FIG. 14.—Plowing near the Pyramids. The Eckley B. Coxe, Jr., Expedition to Egypt.

first in the temple, give an offering. May there be buried in the westland in a great old age the lord revered before the great god, the purifying priest of the king's mother, the judge over the bank, the judge of the 'son of the house' (meaning unknown), the revered before his mistress, Ruwz." This is a libation basin which Ruwz placed in the tomb of his parents. The second basin is inscribed:

"May the king and Anubis give an offering. May there be buried in the western desert in a good old age ('the revered' omitted) before the great god, the acquaintance of the king, Per-senet. This was made for the mistress of reverence before the (great) god by the son of her body, the purifying priest, Ruwz." This slab therefore was dedicated by Ruwz for his mother. The third basin is that of the father: "May Anubis, the foremost in the underworld, give an offering (for) him who is buried (in) the western desert, the lord of reverence, the gate porter, Iy-mery."

Near one wall of the chamber stood a large pottery stand inscribed: "Overseer of purifying priests, Iy-mery."

Turning now to the tomb of Ruwz and his wife we have first in an anteroom at the northern end of the offering chamber a small red granite slab with the inscription: "Purifying priest of the king's mother, Ruwz; his wife Mesat; (funerary offerings) houses, loaves, beer, cakes, fowl, cattle." Behind this in a small space roofed with

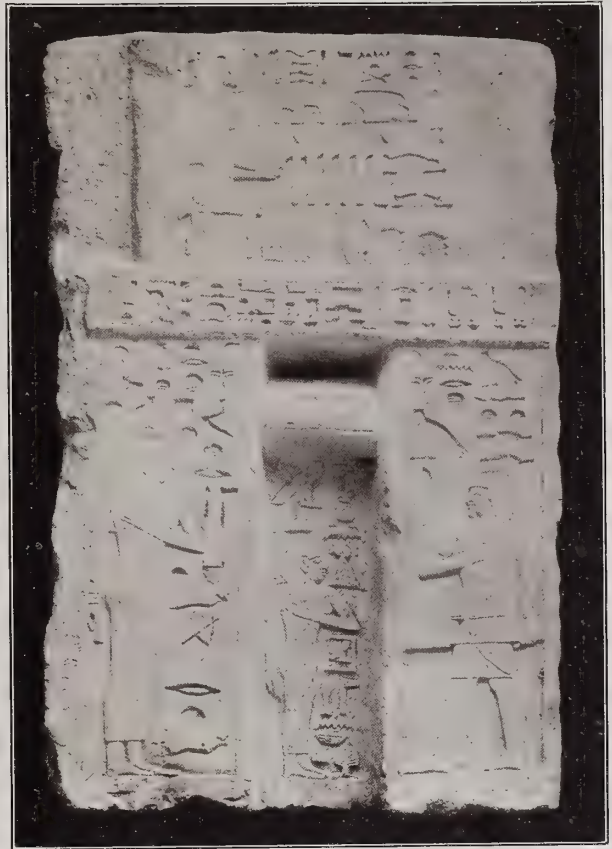


FIG. 15.—Stela from the tomb of Medady in the Pyramid Field. Eckley B. Coxe, Jr., Expedition to Egypt.

stone slabs was a fine limestone offering basin inscribed: "His beloved wife Mesat, the acquaintance of the king, Mesat; libation priest of the king's mother, Ruwz; judge over the bank, Ruwz." The latter title is known to be an official title from other inscriptions, but its meaning is obscure, possibly it refers to duties connected with irrigation, ferrying or shipping. In the main chamber before the



FIG. 16.—Statuette found at Gizeh. Eckley B. Coxe, Jr., Expedition to Egypt.

central niche was the important offering table of Ruwz and his wife (Fig. 17). This had a long inscription covering all four sides of its double ledged rim. It runs: "Acquaintance of the king, priest of Cheops, priest of Chephren, purifying priest of the king's mother, beloved of his lord (i. e., the king), whom his lord loves every day, priest of Dedefra, revered before the great god. May the king give an offering, a thousand loaves of bread, a thousand jugs of beer, a thousand pieces of linen, a thousand garments, a thousand of all good things daily (for) the judge over the bank (canal ?), the companion of the son of the houses, the acquaintance of the king, Ruwz, (and for) his wife, the acquaintance of the king, Mesat."

The importance of this inscription lies in the fact that it contains the cartouches of three kings of the fourth dynasty, Cheops, Chephren and Dedefra. The latter is usually placed between Cheops and Chephren, but the order here would seem to indicate that he really followed Chephren. Only four other examples of this cartouche are as yet known. The position of purifying or libation priest to the Queen mother was an important one, corresponding to a father confessor. In addition to the obscure title of "judge over the bank" which occurred in his other inscription, we have here another one, "the companion of the son of the houses." This also is a known title of which the meaning is obscure. This group of inscriptions is of considerable interest. It is quite evident that both mastabas and libation basins were the gift of Ruwz. We see that he had a very humble origin as his father was only a gate

keeper who married a woman who had some influence with the king. Through this, it would appear, her son Ruwz prospered until he finally obtained the important post of libation priest to the king's mother. He also married a court lady, and with his accumulated means built for his parents as well as for himself and his wife their final resting places. If the inscription on the jar stand found in Iy-mery's tomb refers to the father of Ruwz, it would appear that Ruwz also used his influence to raise his father from a gate-keeper to an overseer of the libation priests.

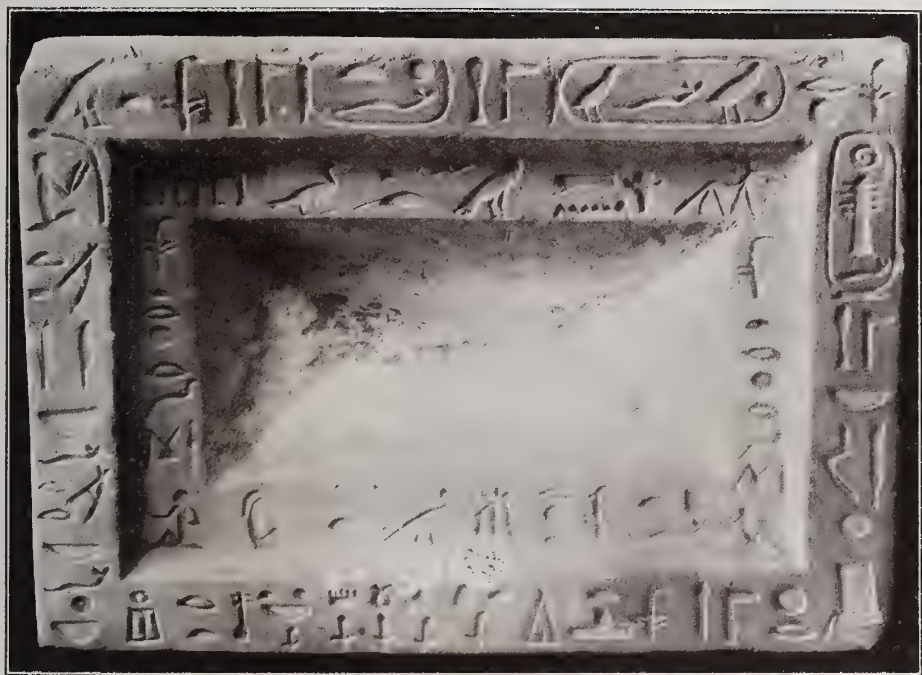


FIG. 17.—Offering Table of Ruwz and his wife, found at Gizeh. Eckley B. Coxe, Jr., Expedition to Egypt.

An interesting stele came from a small mud brick mastaba in the middle of the area. It belonged to Khufu-mer-neteru, "commander of ten (ships?)." Another stele broken in several pieces came from the extreme western limit of our cemetery. It belonged to the funerary priest Ankh, and was dedicated to himself, his concubine Ked-nofret and his two daughters Khent-ka and Ked-nofret.

In the space between the two Ruwz mastabas was a rough stele and offering basin belonging to a woman. After the usual formulæ

the inscription on the stele ends, "... the acquaintance of the king, Nofer-hotep-es-wer. The son of the king, of his body, Duwa-ra. His daughter, the acquaintance of the king, Nofer-hotep-es." The two names here are the same, but in one case the hieroglyph "wer" (i. e., "the elder") is added, probably to distinguish her from a daughter or sister of the same name. She is called the daughter of Duwa-ra, who is a prince of the royal house. This Duwa-ra may be the same as the prince Duwa-ra of the mastaba found by Dr. Reisner in the main cemetery.

At the northern end of the area was a large mud brick mastaba with the exterior walls and the offering chamber faced with dressed masonry. Most of the exterior facing had been removed later, but the offering chamber remained practically in its entirety. It was lined with limestone covered with stucco, on which were drawn in red numerous offering scenes. The tomb belonged to Sneferu-hotep and his wife Khennût-nist-em-yenty. Sneferu-hotep is not given any title except the usual "acquaintance of the king," but his wife was a priestess of Hathor, of Neith and of Wep-wat.

Other minor tombs were those of Nofer, chief of the silver treasury, and Nofret, wife (?) of Thenty. Near the western side was the mastaba of the funerary priest Sobef. The roof of the offering chamber was vaulted with mud bricks designed so as to interlock. These are, so far as I am aware, the only examples of interlocking bricks yet found in Egypt, and the oldest examples of such technical skill.

C. S. F.

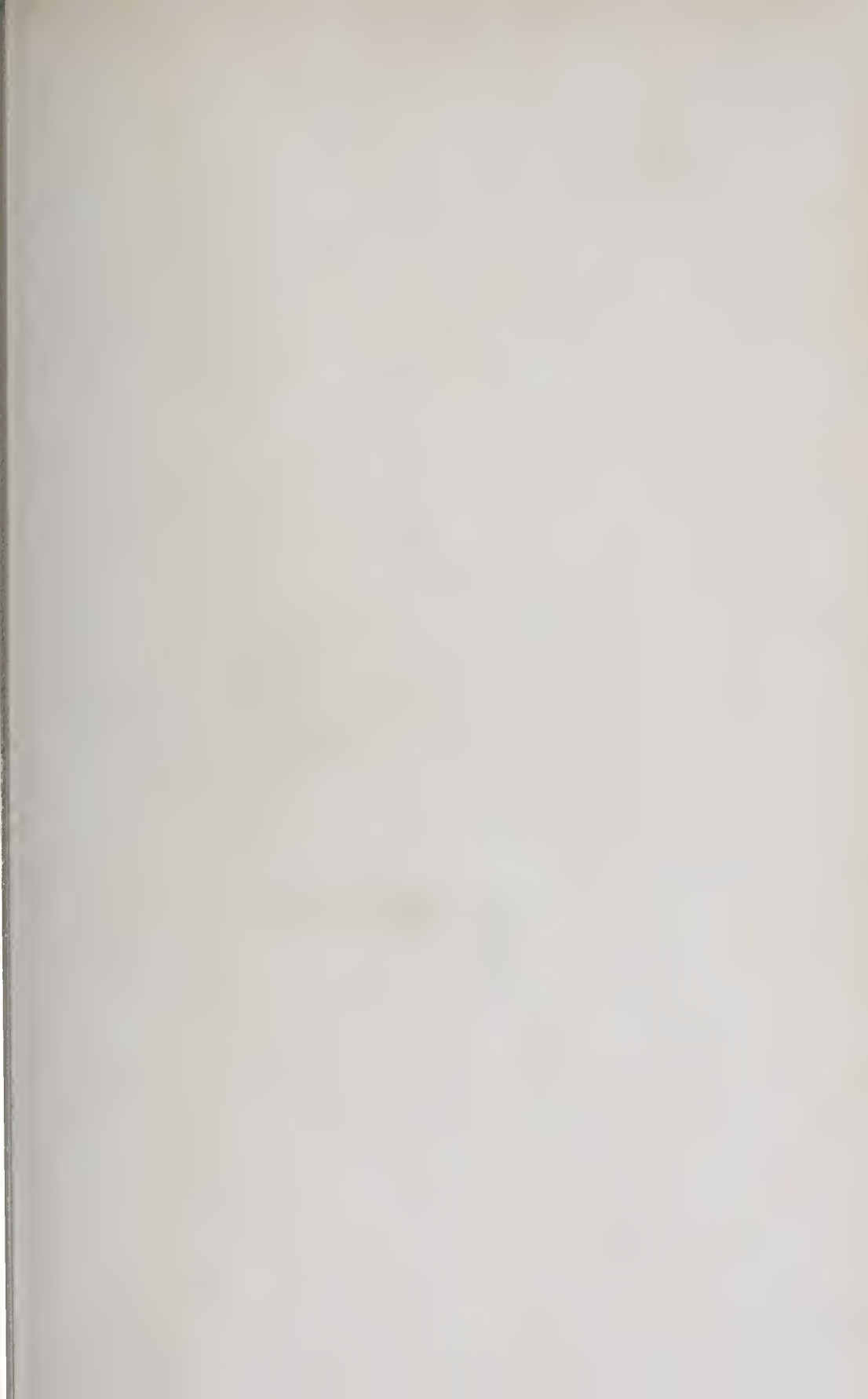




FIG. 18.—A group carved in wood. Yoruba tribes,
West Africa.

SOME GODS OF THE YORUBA

THE Yoruba tribes of the hinterland of Lagos in the Western Province of Southern Nigeria were formerly united in a powerful state under an Alafin or King who had his capital at Old Oyo. The Yoruba kingdom was at the height of its power about the end of the seventeenth century, though even as late as 1818 the Dahomi were paying tribute to the Alafin of Oyo. In its palmiest days the kingdom laid all its neighbors, including the Hausa, under tribute.

Pressure of the Mohammedan tribes from without, aided by internal dissensions, destroyed the unity of the kingdom. During the last two-thirds of the nineteenth century it became a congeries of mutually hostile petty states, pacification of which was only accomplished when the greater part of Yoruba land became a dependency of Great Britain about a quarter of a century ago.

The influence of Islam, exerted upon the Yorubans for many generations, seems to have made itself felt much less in their religious than in their civil life. A Yoruba legend relates the coming of a Hausa Mussulman to Ife, their holy city, to preach Allah to the people, and Islamic cults have perhaps to some extent modified certain of their religious beliefs. Yet they have remained essentially pagan. Frobenius (1907) speaks of a "ritual murder" having taken place during his visit to Ibadan almost under the eyes of the Resident and, so to speak, between church days. But Yoruba land was never drenched with the blood of human victims as were Dahomey or Benin, so far as we know from any historical records. The people of Ibadan, indeed, were so averse from this form of ceremonial cruelty, that upon an occasion when the immolation of a slave was considered indispensable they used to pay the priests of Ife to perform the sacrifice vicariously in the latter town.

The high gods of the Yoruba are called *orisha*, the deified deceased. Every Yoruba is descended from an *orisha* with whom his connection is so intimate that he considers himself at once a portion and a representative of the god—a portion, in that, dying, he returns to the *orisha*, and a representative, since every new-born child is a reincarnation of some deceased member of the family



FIG. 20.—Side view of the statue
shown in Fig. 19.



FIG. 21.—Back view of the statue
shown in Fig. 19.

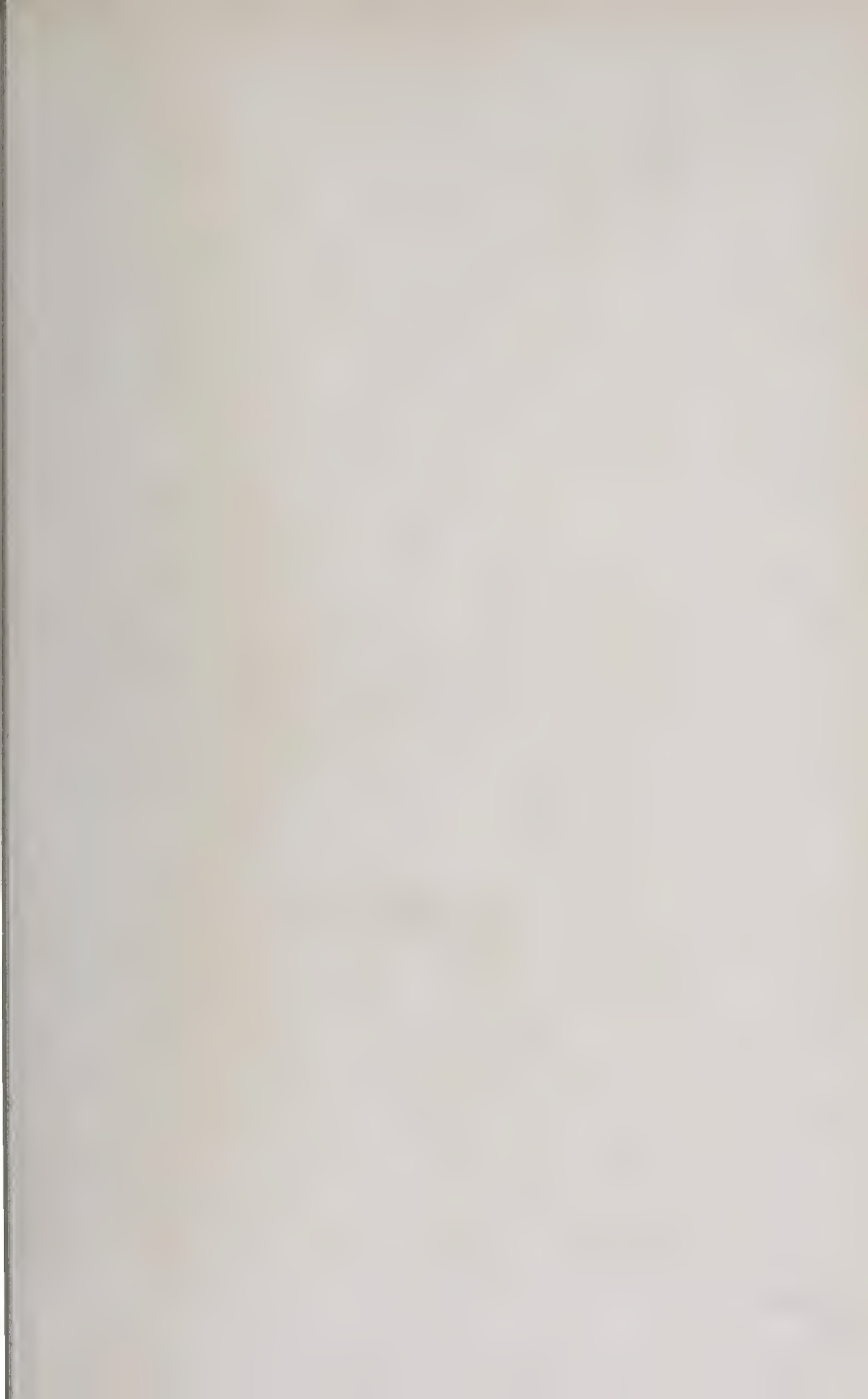




FIG. 19.—A painted wooden statue. Yoruba tribes, West Africa.

claiming descent from that orisha. Each orisha is thus the head of a clan, and since his descendants may not marry among themselves, a man must take his wife from among the descendants of another orisha, that is, from a clan not his own.

The highest—also the most remote—of the gods is Olorun. He is a vaguely conceived god of the sky, whom no one worships nor heeds. Why should they, since he himself takes no heed of men's affairs? The other gods are nearer to men, forefathers of the people, controlling forces useful to their posterity, whom therefore these have it at heart to placate by offerings, and to honor by worship. Such are Obatala, whom Olorun begot, and to whom he has handed over the management of the firmament and the earth; Shango, the thunder-god; Ogun, god of iron; Shankpanna, the small-pox god; Edshu, god of strife and bringer of the Ifa oracle to men.

Among all the gods only Edshu and Shango are commonly represented in the form of images. Most of the carved and painted figures of men and women of Yoruba workmanship are simply representations of priests or other persons who bring offerings to the orisha, or of the dead who are being commemorated at burial feasts.

Of three such figures in the possession of the University Museum, one, the mounted figure shown in Fig. 18, may be an image of Obatala, who, in his character of "Protector of the Town Gates," is represented as mounted on a horse and armed with a spear. Or it may represent one of the founders of the Yoruba kingdom, who also appear in similar state in the temple of the Ifa oracle. Or it is, perhaps, some other great chief who has more lately returned to his orisha. His great size, by comparison with that of his attendants (two of whom are men-at-arms, and the other two bearers, presumably, of booty taken in war) is in itself an indication of rank.

Figures like this, or like others in the collection, bearing on their heads open wooden bowls, form part of the accessories in the Ifa ritual. Ifa is usually called a god, though it is possible that the term properly denotes rather a cult connected with an oracle, and that myths and legends in which he is represented as a god late accretions. There are certain facts which seem to point to the latter conclusion. No Yoruba claims descent from Ifa; consequently the word, which is variously said to mean "palm kernel," "something



FIG. 22.—A painted wooden statue of a woman with four children, Yoruba tribes, West Africa.

scraped off" or "created," is not the name of an orisha as is the case with Obatala, Shango, and the other chief gods of the Yoruba. The ceremonies connected with the consultation of the oracle do not seem to imply the worship of a deity; and the carved figures which adorn the boards, etc., used on these occasions are representations of the orisha Edshu, who brought the oracle to men in the form of sixteen sacred palm nuts which he received from the monkeys in a palm grove. It had become necessary, it seems, to revive the flagging interest in things divine among men, for the orisha went hungry since men had ceased to sacrifice to them. So the gods, not scorning the counsel of apes, sent Edshu with the oracle to their lukewarm votaries.

In consulting the oracle the priests of Ifa employ a whitened board. The sixteen kernels are held in the right hand of the priest who acts as diviner, and allowed to drop between his fingers into the palm of the left hand. If, in this process, one nut remains in the right hand two strokes are drawn on the board; if two nuts remain, one stroke is made. This is repeated until in this manner have been produced the sixteen *odu*, or sacred marks, by observing the disposition of which the diviner reads the oracle. A very similar mode of divination has been reported from northern Africa, and the Ifa oracle, in its present form, is almost certainly derived from the Mohammedans.

Since the three painted wooden figures, or rather groups, pictured here all stand on hollow wooden pedestals representing either single or double human heads with holes cut through at the mouths, their use as masks is indicated, and consequently a possible connection with the cult of Egun or Egungun.

Before the burial of a corpse, the shroud which has covered it during the time it has been kept in the house is removed. A wooden mask is prepared, which represents, realistically or symbolically, the deceased. This mask is assumed by a dancer, who puts on also the dead man's shroud. He dances before the bereaved relatives, speaks to them in a shrill, high voice, condoling with them, and discussing matters in which the dead man was interested in common with them. Offerings may afterwards be made to the mask, and it is believed that these are received by the deceased.

"To prove to the women folk that man rises and goes to heaven, a person is placed in a private room. Then when all the family is assembled in an adjoining room someone will strike the ground three

times with a stick, crying out, 'Father! Father! Father! Answer me.' And the Egun, the person in the room, answers, and everyone rejoices. Food has been placed in the Egun's room by the women, and when the Egun has answered, each guest goes in there and helps himself as he or she wishes. The Egun is not dressed up when in this room, but if he wishes to go outside and join in the dancing, then he dresses himself and puts on his mask."

From being regarded originally as merely the incarnation of the dead, Egun has in some places developed into a kind of bogey whose function is to carry away persons who are a nuisance to their neighbors—termagants, busybodies, scandalmongers. In his public character, at any rate, his touch is fatal. To threaten an Egun with personal violence, or for a woman to speak disparagingly of him, is punishable with death.

A smaller and lighter mask consists of a head supporting a group of animal forms—a tortoise, its forelegs gripped by the beaks of two scavenger birds, and a serpent. The whole is surmounted by a covered bowl, which suggests that this object may have been used as a "fetish" or rather a "fetish" container. Snakes play an important part in the religion of most West African peoples, and birds and tortoises are objects of reverence, if not of worship. The tortoise (like the spider of West Coast myth) stands for wisdom and cunning, for special efficiency in the struggle for existence, a reputation probably due to the immunity afforded by its tough carapace from the attacks of the many foes which lie in wait for the other small creatures of the jungle. But this is not the reason assigned on the Slave Coast for the success which attends the tortoise in all his undertakings: it is a reward for a good deed cleverly performed.

The daughter of a king was deaf and dumb. The tortoise went to the king and asked what reward he would receive if he succeeded in making the girl speak. "I will divide my palace in two and give you one part," said the king.

The tortoise took a bottle of honey and went into the wood where the child dwelt, placed the bottle where she would see it, and went and hid himself. As the child came up to take the bottle, the tortoise crept up behind and struck her a light blow. "Thief!" he cried; "that's how you steal honey!" Apparently the shock of discovery restored the princess's powers of hearing and speech, for she immediately burst out into indignant protests. The tortoise

fastened a rope round her waist, and led her back to the palace, taunting her as they went, so that she continued to return angry and voluble rejoinders until they came into the presence of the king, who was thus assured of her complete recovery. He divided his palace into two parts and gave one to the tortoise.

That is why the tortoise succeeds in everything he undertakes.

H. U. H.



FIG. 23.—Wapisiana woman spinning cotton, British Guiana.

THE AMAZON EXPEDITION OF THE UNIVERSITY MUSEUM

TO THE HEAD WATERS OF THE AMAZON

AFTER returning from the Guianas, we made a journey of 2,200 miles up the Amazon River in an English ship to Iquitos, Peru. The first night after leaving Para, while threading our way among the numerous islands, we ran aground on a sandbar and were unable to get off. A larger ship belonging to the same company went by but could not come near enough to assist us. There was no danger whatever as we were out of the current and had only to wait for the returning tide to carry us over. The islands are often very large and one does not realize that the ship is not running along the mainland. To avoid the current, which runs at about four miles an hour, the ship always remains near the land on one side or the other. If one takes the trouble to climb the mast and look over the tree tops he will more than likely see beyond the narrow island another branch of the river as large as the one he is traveling. There may be three or four branches each of which is several miles across. The lower river is like a great funnel a hundred miles across which narrows to the neck at Obidos five hundred miles up where it is less than a mile and a half in width. Here all the water is confined to one channel which is said to be two hundred and fifty feet deep.

The tide is felt about four hundred miles, and the water actually flows up stream for two hundred miles. The side streams also feel the tides for a long distance. Even where the Amazon rises but continues to flow it dams up the other rivers and causes an upstream flow. For example: we were traveling by canoe up the Amazon on the north side of the river when the tide was in, but the water was still running out. When we reached the mouth of the Jary' we were paddling against a strong current, but when we turned into the Jary' we floated for several miles up stream. The sea water does not go far inland, yet with a strong wind at high tide we found the water too salt for making coffee at a distance of seventy-five miles from the sea.

The land along the tide part of the river is too low to be used

for agricultural purposes, hence there is no cleared land. The rubber gatherers live in small houses on stilts and make no clearings. One traveling along the river for the first time has a feeling that the people have just arrived and have had no time to make fields. But it is just as it has been for a century and just as it will remain for another one. About three hundred miles up river you get the first view of a range of low mountains through which the river

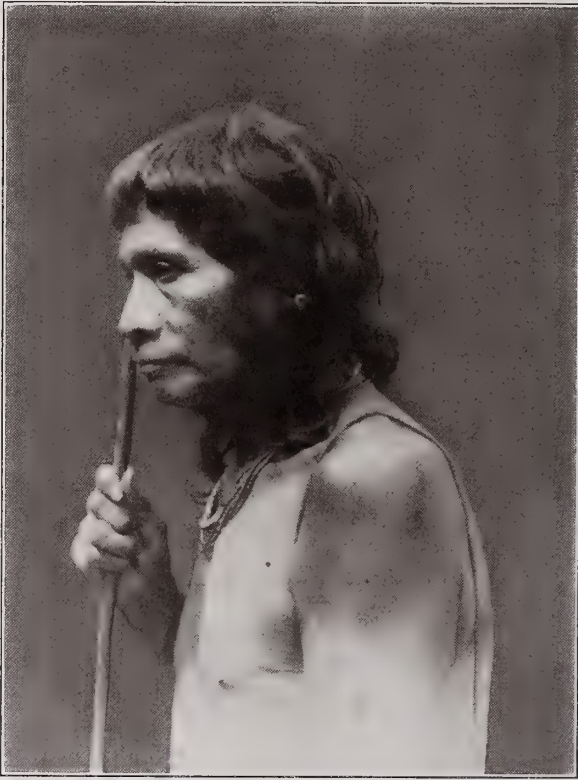


FIG. 24.—Mapidian Chief, North Brazil.

appears to have cut its way. Many of the mountains are covered with grass and support hundreds of cattle and horses. Around the foothills there is much cleared land where cassava, sugar cane, corn, bananas, etc., grow luxuriantly. When this high land is passed there is nothing to break the monotony of the broad flat expanse until the snowcapped Andes appear in the far distance. There are slight elevations at many places which give a location for small villages and fields.

Our first stop was at Manãos, nearly a thousand miles from the sea, where we spent a day and took on several passengers for Tabatinga, at the boundary of Brazil, and for Iquitos. Among them was a Peruvian government official, who had been sent three months before from Lima to take his post at Iquitos. He had gone up the coast to Panama, then to Barbados, and from there to Manãos. After spending seventeen days more he reached his station eight hundred miles from the Capitol.

Manãos, a thriving city of 80,000 inhabitants, is on the north bank of the Negro a few miles from the Amazon. The water of the



FIG. 25.—Mapiidian mother and child, North Brazil.

Negro is very dark, while that of the Amazon is yellow. Where their waters come together a distinct line is seen for some distance, but gradually the Amazon color predominates. And so all the way to the sea: the Trombetas, the Madeira, the Tapajos, the Xingu, the Tocantins, the Paru', the Jary' and numerous smaller rivers bring their clear waters to the Amazon only to be swallowed up without noticeably changing the original yellow of the great stream. The Amazon is never clear, not even in the dry season. It is difficult to appreciate the great volume of water carried by the Amazon during the rainy season. The flood plain extends for many miles on both sides of the river, yet it rises some fifty feet at Manãos and forty feet at Iquitos. Lower down where it meets the tide the rise is not so great. At Para, the difference between high water with incoming tide and low water with outgoing tide is about fifteen feet.

Besides carrying sediment the river carries great quantities of logs and trees out to sea. The trees that fall into the upper rivers are soon broken and stripped of their branches. They collect in eddies and are piled high with other driftwood on the sandbars. Great cedar logs thus piled up and cured were used by the Indians in making their canoes. Often whole trees with other drift get out into the current and are carried down like a great island. One night our ship ran into such a floating island and was compelled to back away to get free from it. Damage is often done to the propeller in this way. The heavy hardwoods will not float and they may be seen at low water lining the banks where they fell. The small launches have much trouble in the shallow streams on account of running on top of these logs. It is much more difficult to get free from a log than from a sandbar.

As we were ascending the river in the dry season it was necessary to take great precaution. The channel is constantly shifting. Where a ship passed in safety last year, a large canoe may not be able to pass this year. The native pilots are experts in determining the depth of the water from the appearance of the current. The greatest danger is near the mouth of a large tributary. The cross currents which are interfered with also by numerous islands cause deposits in unexpected places. Before we reached the Brazilian boundary we were having so much difficulty in locating the channel that it became necessary to tie to a tree at night and run only in the day time. This gave us an opportunity to go fishing. At

the Peruvian frontier we were met by the Booth Company's tug-boat which ran ahead and located the channel for us.

A short distance below Iquitos we met the English consul in a motor boat, coming to notify us that war had been declared in Europe the day before. When we arrived at the city we found considerable excitement. The two banks, one English and the other Peruvian, were closed but all the drinking places were doing a good credit business. Everybody talked war. Some Frenchmen and Englishmen took the first opportunity to go home and volunteer



FIG. 26.—Remate de Males, Brazil and Nazareth, Peru—Rio Javary'.

for service. Several Germans took passage on a launch belonging to one of their number and went down to Manãos, where they learned that it was impossible to get home, so they returned after a short visit.

As we had no money and there was no possible way of getting any we were unable to go to the hotel. The Booth agents took care of us until we could get away some weeks later.

At such a time one appreciates friends and the credit system which is the common method of doing business throughout the rubber region. We had expected to spend several months in study

and collecting among the different tribes of Peruvian Indians, but that now seemed impossible. I had been in Iquitos eight years before and had made a two weeks trip with the manager of the



FIG. 27.—Yahua men in grass clothing, Pebas, Peru.

Barnard Rubber Company on one of their launches up the Ucayali River. Fortunately this same man was in charge of the business again after a long vacation in Europe. I called and related my

difficulties. He said, without any hesitation or questions, "That is easy, within a few days I must go to Cumaria (the head of navigation on the Ucayali) to collect rubber, I will furnish you passage and all the goods you need for trading with the Indians and allow you to pay when you can." I availed myself of his very generous offer and spent some six weeks with him on the journey. He did even more than he had said he would do. He stopped at every Indian village and every place we could hear of a specimen. He often went with me in a motor boat up small streams while the launch loaded or waited below. We made over two hundred calls on the round trip and collected specimens from the Campas, Cashibos, Conebos, Piros and Shipibos. The large collection of Conebo pottery is unique and one of the best of the whole expedition. The Conebos make the finest pottery of all the tribes and their wares are found among many other tribes as well as in the homes of the whites living along the river. In the collection are "chichi" pots, for native drinks, three feet high and four feet across the body.¹ These were carried suspended from poles on the shoulders of men to the river, there they were placed in canoes and taken to the river launch which carried them to Iquitos, where they were packed and sent direct to New York by a Booth steamship. A part of the collection was presented to the Goeldi Museum at Para upon our return.

At Cumaria, the last station up river, we met many canoes from farther up stream and from the side streams, bringing rubber to the launch. Here we found some most incongruous combinations of primitive with modern methods of navigation. For example, we saw a dugout canoe fitted with an Evinrude gasoline motor and used by a Conebo Indian to bring rubber from the small rivers to the station.

As it was impossible to learn anything about money affairs up river, it was necessary to make such a rapid journey that no time could be given to ethnological study. After an absence of six weeks we returned to find no improvement in the financial situation and it was, therefore, necessary to return to Para. There was not a cent in circulation. To make matters worse, freight rates were doubled at once and exporters could not afford to ship their rubber, or vegetable ivory nuts, the two important exports. The monthly service of foreign ships was reduced to one ship in three months

¹For method of manufacture and use, see Vol. VI, No. 2, of the MUSEUM JOURNAL.

and when it came it could not carry the food stuffs required for the people. As a result, many were compelled to leave the city and go to the upriver plantations, leaving their unpaid bills behind.

With such a state of affairs it was impossible for us to continue



FIG. 28.—Yahua man, Pebas, Peru.

our work, so we started down river, stopping on the way to visit the Yahua Indians. We made a good collection there, and paid for the goods we used in exchange several months later. Although this tribe has been in constant contact with civilization for two hundred and fifty years, and during most of that period has had a mission station, the members of the tribe speak their own language only, dress in grass, and practice their ancient customs and religion. As no one at the mission spoke the Yahua language, we were unable to learn much of their customs or beliefs. Only a remnant remains of the large group that once made up this tribe. It is the same old story, such contact with civilized men serves only to destroy primitive peoples. In a few more years they will have disappeared.

In addition to the ethnological collections, we sent also from Peru a number of live birds and animals for the Philadelphia Zoological Gardens, consisting of parrots, maroudis, curassows,

orioles, bitterns, monkeys, cutias, pacas, squirrels, jaguars and a tapir. The Sun parrot is the most beautiful of all the family. "He spreads his neck feathers in a flaming glory around his head." I carried him on foot for seven days and in the canoe and on launch for two

months. One of the jaguars was a great pet and was allowed to run about the launch at will. The tapir was about three months old and still retained the white stripes which are characteristic of the young. The tapir is extinct in all the other parts of the world except in southeastern Asia and South America. It is a curious fact that the young in these widely separated areas are alike in color while the adults are quite different in this respect.

The Peruvian launches go to Nazareth on the Javary River, the boundary between the two countries, for purposes of trade with those living on their side of the river. The Brazilian launches stop at Remate de Males on the opposite side of the river. These two villages are the wet season centers for upriver rubber gatherers. Here they loaf and enjoy themselves until the rains cease, when they must go to work again. This location is a convenient one in which to live, because one may take advantage of the different customs duties in the two countries—at night. From this place our launch carried many tons of rubber and on the way picked up six hundred live turtles for the market at Manãos. Beef is scarce there, except for a short period, when cattle are received from the savannahs of Rio Branco. Many cattle are raised in the low grass lands along the river but not sufficient to supply the market. These turtles are caught on the sandbars at night, when they come out to lay their eggs. The people rush out from their hiding places and turn the turtles over on their backs. In this position the turtles are helpless. They are next carried to pens and kept there until a launch arrives to carry them to market. The turtles average about seventy-five pounds each, and sell for five dollars apiece. Our passage, as stated upon going aboard, was to be fourteen pounds sterling, or, at the last known exchange, two hundred and ten milreis; but when we arrived at Manãos, we paid three hundred and twenty-two milreis, or a difference of more than fifty per cent, due to the depreciation of Brazilian currency, on account of the European war. Upriver prices for the most part remained the same, but in the cities the prices increased to keep pace with the depreciation of milreis. The increased cost of imports and freight rates, and the decrease in value of exports and currency made times hard in the valley. Laborers in the cities could not get work, and many moved to the islands, where they lived on farinha and the flesh of the capybara, the largest of the rodents. A boy I had employed on my first trip came back and begged for work again at less than one third of his former wages.

We soon learned to make farinha our principal food, supplementing it with whatever meat we could get along the rivers, or in the forests. Farinha is the coarse flour made by the natives from the root of the cassava plant. It is used by many of the Indian tribes as well as by all the Brazilian rubber gatherers. The root cannot be used as a vegetable because it is poisonous. Farinha is obtained by grating the root, pressing out the poisonous juice, then roasting the remaining pulp in an open oven. While not palatable, farinha is a very nourishing food and may be eaten as it is, or mixed with soups, tea or even cold water. For the traveler in that region it is the best possible food to carry. It keeps indefinitely and may be procured from any rubber station or Indian village.

Instead of roasting the pulp some of the Indians use it in making coarse bread. On the higher land there is a variety known as sweet cassava, which is not poisonous and may be eaten boiled or roasted.

THE PURUS

During the rainy season, which lasts from four to six months according to the location, it is difficult to travel in the interior because the rivers overflow their banks and make it impossible to go on foot. It is also a bad time to travel by canoe because there is no high land for camping places, making it necessary to pass the night in the canoes. At such times it is necessary to cook aboard the canoe. The stove in all the canoes along the Amazon is made of a Standard Oil kerosene tin. Three inches of earth is placed in the bottom to prevent burning through. Just above this a hole is

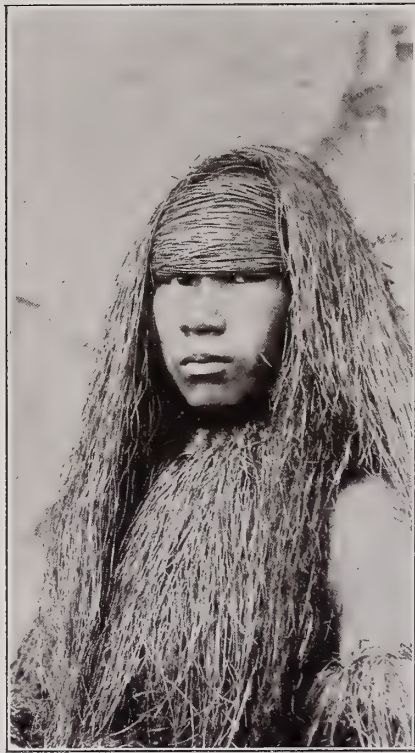


FIG. 29.—Yahua man, Pebas, Peru. The hair is cut short and grass is wound about the head.

cut in one side for the fire. The top is removed and the cooking pot suspended inside. It is cheap, convenient and efficient. Two kerosene tins are shipped in a strong wooden box. These boxes

serve as seats in all the rubber men's houses. There are no chairs in the region outside of the towns. Everybody sits or lies in his hammock and has little use for a chair. In well-to-do homes an extra hammock is kept for the use of visitors. Little or no food can be obtained on the way. The land animals go to the higher places away from the rivers and one cannot go into the forests for birds or monkeys. Fish cannot be caught in the rivers because they go into the forests to feed. On one occasion we killed a great many fish weighing from four to five pounds each, with our machettes in shallow water among the trees. The Indians who live along the river in the dry season, usually have homes and fields on high land far away, where they retreat during the rainy season. Without a guide these places cannot be found. On one of the rivers we learned that a tribe had a village three days journey on foot from the river in dry weather. They had no canoes and never came outside while the water was over the trail. When we asked the rubber gatherer, who was living in a house on piles, if it was possible to reach the Indians, he said there was no land one could put his foot on within a hundred miles in any direction. We attempted to follow the trail through the woods in a canoe but could not find our way. Then we tried following a small stream, but soon came to a great lake with no streams coming into it. That is, the streams were so small and so winding that the branches of the trees met and left no trace of a channel. There was water everywhere but no passageway for a canoe. We had marked the trees on the way or it would have been impossible for us to follow the same way back to the river.

The wet season begins earlier at the south and travels slowly northward. In order to take advantage of this fact we went up the Purus river, a southern affluent of the Amazon. At this time the river is navigable for more than a thousand miles of its course, to the very frontiers of Bolivia and Peru. It was the time of the greatest rainfall along the Amazon, and for half the distance up the Purus the water was over the banks and flooded the forests for many miles in every direction. The mules, which are used in the dry season to carry the rubber from the distant camps in the forest to the river, are kept on platforms built for that purpose during the four months of the wet season and are fed on wild grass cut along the river bank by men in canoes. In some places, as at Huytanahan, on the Purus, the vampire bats are so numerous and so bloodthirsty it is impossible to keep horses, cattle or even chickens. We are accustomed to

think of the vampire as a myth. No doubt it is because the vampire of the ancients was a ghost that came at night to suck your blood. After one of these bats had taken his supper from my great toe, I was quite sure he was no ghost. In the morning my feet and my clothing were covered with blood, but I had felt no pain. Just how he is able to make such a deep wound without disturbing his victim, is difficult to understand. His favorite spots for operation on man are the toe, the nose or the temple, and on the horse the withers. The wound leaves a scar as deep as a pox mark. He is not the large bat as is supposed, but of medium size and easily distinguished by his teeth and stomach. He eats no solid food.

When the middle river is over its banks the head streams are

already dry. The country is so very flat that when the rains cease the water away from the rivers remains to be evaporated. The water of the rivers soon runs out and leaves them unnavigable even for canoes. At Senna Madureira, the head of navigation, within three weeks from the time the river was over its banks it had dropped fifty-five feet and would not rise again until the coming of the next rains. Small launches caught at such times must remain for five or six months.

Senna Madureira is the capital of the Acre Territory and is connected with the other districts by wireless. The first people



FIG. 30.—Yagua mother and child, Pebas, Peru.

went to the Acre in 1877, but now the population of the Territory is estimated at 30,000. The town has a population of 1,500 during the rainy season and 800 the rest of the year. It has electric lights,

tram cars, good schools and a college. A few years ago the government established an agricultural experiment station here with all kinds of machinery and tools, but it was soon abandoned. The people will not adopt agriculture as long as rubber gathering is profitable. The sawmill and planing mill were set up but were never in use. The houses are built of lumber from the United States, which has been shipped 2,600 miles through Brazilian forests. The forests are very dense with underbrush and small trees, but



FIG. 31.—Balsa houses at Iquitos, Peru.

large trees grow far apart. One wonders why there are so many young trees a foot or less in diameter and so few old ones.

THE RUBBER INDUSTRY

The rubber is collected during the dry season and shipped down on the high water. In former times the collectors had little communication with the outside world during the gathering season. Because of this they were often taken advantage of by traders who came up to buy their rubber. Now, however, there are several

wireless stations in the interior, so the collectors learn the general news and, what is of more importance, the price of rubber. In 1912, before the time of the wireless stations, the owners of large "seringaes" took their rubber to Manãos in their own launches. They expected to receive six milreis a kilo, at which price they would have a reasonable profit. But to their great surprise they got sixteen milreis instead of six, and found themselves suddenly made millionaires. Little



FIG. 32.—Cumaria, Peru, head of navigation on the Ucayali River 3,000 miles from the sea.

wonder that many lost their heads and spent their money lavishly and foolishly.

The life of the rubber man in the forest is not one of great hardships, as is often depicted, nor of great privation. At the end of the wet season, which he has spent at the central station, or down river, he, in company with other men, goes by canoe up a small stream to his camp, taking with him his supplies for the five months of tapping. He taps the trees in the morning and collects the milk and smokes it

in the early afternoon. On his round he carries his rifle and gets enough game to give him a varied diet. He spends a month getting to camp and making ready for work, and another month in getting his rubber to the station. The five months of rain he spends at the central camp, or visiting down river, where he succeeds in spending a little more than his year's profit. Every year finds him deeper in debt to his employer, but he remains happy and continues going the old rounds. He may go back to the same camp for ten seasons, but he seldom makes any clearing or does any planting. He prefers to buy all his provisions. The river may be full of fish, but he would rather buy canned sardines than go fishing. In the Acre Territory, more than two thousand miles up river, we ate American salmon, sardines, beans and potatoes.

The Indians of the Purus collect very little rubber, and few are seen along the river. The rubber gatherer gets all the game in the woods and thus forces the Indians farther into the interior, away from the rivers. When the water is low, the Indians come out and camp along the sandbars, in order to fish. At the time of our visit there were none to be seen along the river. We made several journeys on foot back to their villages, fording numerous streams, with our packs on our heads, and wading through the mud and water of the lowlands. For the Indians, such travel is not so unpleasant, because the men wear no clothing, and the women only a short apron. Such tribes have very little for the collector, with the exception of bows and arrows, hammocks and a few cooking things. Yet their languages, customs and beliefs were interesting and well worth the difficulties in recording them. We visited four tribes, Catyana, Ipurina, Jamamadi and Nawisima, each of whom, we learned from our linguistic material, speaks a dialect of the Arawak language. We found here many customs which resemble those of other tribes of the same stock in British Guiana, two thousand miles away. The Jamamadis have a physical test for marriage for men which might be introduced into civilized society with profit to the race. The young man must first get consent from his parents, the girl and her parents, and the chief. Then, on the morning of the wedding, after he has had his bath in the river, he is taken by the chief to a heavy log. The prospective bridegroom must carry this log on his shoulders a fixed distance; if he is unable to do so he is not allowed to marry. In this way inherited weaknesses and physical defects are eliminated, and a strong vigorous race is the result.

An Ipurina marries his cousin on his mother's side. The wedding takes place when the full moon is near a bright star. The moon, which is a woman, knows when the girl is old enough to marry. At death "the angel of the eyes" goes to the sky and never returns. They perforate the ears, nose and lips to prevent them from growing too large, but never wear any ornaments. They pull out their eye-brows so they can see more clearly. The rainbow is the reflection of the colors of a large animal that eats the rain. It can never rain as long as you see his colors.

The Jamamadis marry outside of their own village, but not necessarily cousins, and the man goes to live in his wife's village. The man who marries the oldest daughter of the chief becomes the next chief. He is usually the son of another chief. His hammock is hung between those of his two wives. Death ends all. Nobody knows where the river goes, nor where the sun goes at night. The women wear joints of bamboo an inch in diameter in the lower lip, the septum of the nose and in the ears.

Photography in the tropics is very difficult, on account of heat and moisture. One must carry plates and films in sealed tins, and develop them at night by the riverside, as soon as they have been exposed. We found it necessary at times to dry our plates by the fire. On this voyage we had difficulty in getting the proper exposures. The villages were among the tall spreading trees, without any clearing except that of the underbrush. It is very difficult to appreciate the density of the shadows in these places. As a result,



FIG. 33.—Conebo Indian,
Ucayali River, Peru.

our photographs were underexposed. On one occasion we took a dozen photographs, eleven of Indians, and one of a rubber collector. During my absence of a few minutes, the collector pulled out the slides of the plate holders looking for his picture and ruined all but

a half of one of the plates. This was not learned until the plates were developed and the Indians had gone.

During our journeys we kept a record of temperature, but it is of little value, because we were not in any one place for an entire year. The record of the government engineer, João Alberto Masô, for 1911, gives a very good account of rainfall, temperature and humidity in the Acre Territory.

Average maximum temperature.....	94 degrees
Average minimum temperature.....	81 degrees
Average humidity.....	88 per cent
Total rainfall.....	69 inches
Total rainfall for November, December, January and February.....	42 inches
Total rainfall for May, June and July....	0 inches

The humidity of the four months of greatest rainfall is 90 and for the three dry months it is 85. The hottest days are in July, August and September, with an average for the three months of 95 degrees. The coolest days are in February, March, April and May, with an average of 89 degrees. (At Para the hottest day on record was 96 degrees.)

The time and the amount of rainfall varies greatly in the different regions. About the islands in the lower Amazon, just under the equator, the rainy season extends from January to June and the rainfall is said to be 10 feet a year. At Dada Nawa, British Guiana, in latitude $2\frac{1}{2}$ degrees north the fall is 60 inches and nearly all occurs in June, while at Boa Vista, sixty or seventy miles farther west in the same latitude, the rain falls at the same time of year but measures only 42 inches. The agricultural experiments undertaken by the government of Brazil at Boa Vista failed because the rainfall was not sufficiently distributed throughout the season for the development of crops. On the Brazilian side one eats only farinha and dried beef. On the British side Mr. Melville has introduced irrigation by means of American windmills and grows all kinds of tropical fruits and vegetables, such as oranges, bananas, cashews, mangoes, beans, potatoes, tomatoes, etc. The soil is fertile, there is plenty of underground water, there is a constant east wind—hence the windmill is all that is needed to make this a valuable agricultural region.

When traveling in the upper rivers among the rubber gatherers

by canoe, one receives information from the shore by signals. Every man carries a rifle and uses it for game and for communication. These signals are known and heeded by all. One shot means nothing more than shooting game. Two shots at an interval of ten seconds means good day—a simple salutation—or who are you? when hailing a passing canoe. As we were strangers, two shots required us to stop and to give a satisfactory account of ourselves before



FIG. 34.—Conebo Indians, Pachitea River, Peru.

being allowed to proceed. Three shots at the same interval means that immediate help is wanted. Four shots is the signal to announce a death at the place. Five shots tells everybody that a festival is in progress and that he is invited. One Sunday when we were coming down the Amazon in a launch far from shore, a man came out in a canoe and fired five shots, whereupon we turned and followed him in to shore. There we found nearly a hundred people and spent the afternoon dancing and feasting with them. In this particular

case we were invited because they expected us to add something to the supply of liquid refreshments. This the captain of the launch did most liberally. The stranger is often surprised at the consideration the captain shows for the upriver people. For the one who can read he has a newspaper, for the children he has candy or even an apple from Oregon, which he can buy any month in the year at Para for ten cents. Those who are fortunate enough to sit at the captain's table soon understand it all. Choice fruits, vegetables, chickens and wild game find their way to his room at every stop.



FIG. 35.—Rubber station on Quenuhua River, Peru.

He always has a good supply of such things left over to take home to his family upon his return.

Long journeys up river on the launches become somewhat tiresome, yet there is always something to attract one's attention. Numerous stops must be made to take on wood for fuel because coal is too expensive for river steamers. Cattle for the voyage must be taken from the lower Amazon and killed aboard as needed. Every day the boys must go out in canoes to cut grass to feed them. Occasionally one falls overboard and there is great excitement until it is caught. One day one reached the bank before it was over-

taken and the boys spent several hours chasing it through the forest before they could catch it again.

The launches which are subsidized by the government must carry a medical doctor and a postal clerk. If the clerk has a letter for a man the launch blows the whistle and the man comes alongside in his canoe but the launch does not stop. The same thing is true if there is cargo for the man: the whistle gives him the information, and the launch carries him along until the canoe is loaded, when he casts off and floats back home. If the man on shore wants medicine



FIG. 36.—Caiambé, Brazil.

or to take passage he fires a signal and starts out in his canoe to meet the launch. On the return voyage more stops must be made to take on the rubber.

One's traveling companions are Brazilian officials, owners of rubber stations, rubber collectors; Turk, Assyrian and Jewish traders. In Peru, Spanish is the launch language and in Brazil it is Portuguese. One hears every language, from Arabic to Arawak, but no English. The day is largely spent at the table. Coffee at 6.00, breakfast at 10.30, coffee at 2.30, dinner at 5.30 and a coffee nightcap at 8.00.



FIG. 37.—Sumauma tree, common along the Amazon in Brazil.

Wine is always served with the meals. We happened to be in the Acre at Easter time. Effigies of Judas were burned at many places along the river banks. Fast days were observed aboard the launch; that is, the gong did not sound to call us to our meals, but the regular meals were served for those who did not care to fast—there were not many vacant places. These launches under government contract are not allowed to do any trading. They carry a refrigerating plant but cannot sell ice. They sell beer and wine on board to passengers 2,000 miles up river at the same price as at Para. This is often one-fifth the local price for warm beer. It is little wonder then that many come aboard at every stop, for a cold drink. They have a saying among themselves that they sit on the river bank from one launch to the next.

It is interesting to note the parts the people of the different nationalities play in the business of the Amazon valley. In Peru the owners and the collectors of the rubber are Peruvians, but the trade is in the hands of English, French, German, Spanish and Moroccan Jews, while the shipping is wholly in the hands of the English who own the floating docks at Iquitos. In Brazil the owners and collectors are Brazilians and many of the launches trading up river belong to Brazilians. But the majority of the launches are owned by an English concern which is not allowed to trade and whose launches must be manned by Brazilians—pilots, captains, officers and men. This company also controls the docks at Manãos and Para and is associated with the company which controls the foreign shipping of the whole valley. Brazilian ships do a coasting trade as far as Manãos, and the ships of a Brazilian line from Rio to New York call at Para. The small business in the cities and towns is done by Turks and Assyrians, but the larger business of supplying the rubber men, the nut collectors and the cattle ranches is done by Portuguese houses. The exporting houses are German, English, and American, while the foreign banks are English.

W. C. F.

[To be concluded.]

NOTES

At the January meeting of the Board of Managers, Mr. Louis C. Madeira was elected a Vice-President of the Museum.

A new section has been created in the Museum to correspond to the more recent activities in assembling collections from the Far East. The Section of Oriental Art will include the collections which illustrate the historic periods of the arts in China, Japan, India and Persia and the countries in the Far East that are immediately influenced by these civilizations. Mr. Carl W. Bishop has been appointed Assistant Curator of this section.

Mr. Bishop left Philadelphia in February to proceed to Japan and China for three years' study in the Far East. It will be his purpose to invoke the cooperation of scholars and authorities in the far eastern countries for the investigation of Chinese life in the prehistoric and historic periods. He will, if possible, procure examples to illustrate the history of the arts and industries in China.

The Eckley B. Coxe, Jr., Egyptian Expedition has been at work on the cemetery at Denderah and has recently moved to the camp at Memphis to resume the excavations which were conducted there last year.

Mr. Louis Shotridge has continued his work in Southeastern Alaska under the appropriation made by Mr. John Wanamaker. Mr. Shotridge has been successful in his collecting and in his recording of the social life and customs of the Tlinkit peoples.

Mr. Robert Burkitt has continued his studies and investigations in Guatemala. A collection of the modern products of the Indians has been assembled, together with a series of their myths and legends recorded in native languages.

Reports have been received regularly from Mr. Alexander Scott in charge of the Museum's expedition in India. Mr. Scott has already studied many sites and has been in close touch with the

Archaeological Survey of India under the direction of Sir John Marshall, through whose cooperation and assistance Mr. Scott's work has been agreeably facilitated.

The following gifts have been received.

From Mr. Hampton L. Carson a piece of painted tapa cloth from Samoa.

From Miss Frances A. Roberts, a feather robe from North Africa.

From Mr. J. Maxwell Bullock, a native drum from the Island of Hayti.

From Dr. Horatio C. Wood, a pair of Japanese swords.

From Miss Alice M. Freeman, a Greek vase and a Greek terracotta figurine with movable legs and arms.

The following purchases have been made during the three months ending March 31st.

A Greek stele or grave relief described in this number of the JOURNAL.

Five Babylonian tablets.

A Chinese sculpture of the Wei Period.

Four Chinese pottery vases and three pottery figures all of the Ming Period.

Five Persian textiles of the sixteenth and seventeenth centuries, three Persian bronze vessels and one Persian bronze ring from the door of a shrine with inscription inlaid in silver.

Five objects from the South Sea Islands.

An American Indian shield.

A collection of Panama pottery.

A deck of Apache playing cards of skin in decorated case.

Two collections of European prehistoric flint implements.

Dr. Stephen Langdon, the Curator of the Babylonian Section, has in press two volumes dealing with some of the tablets in the Museum collection which he has been cataloguing. He has also prepared for this number of the JOURNAL two articles on tablets of exceptional interest for readers of the JOURNAL.

Dr. Langdon, who is Reader of Assyriology at Oxford University, and a close associate of Prof. Sayce, has a special interest in the Sumerian language in which many of the tablets are written. This ancient and obscure language, together with the Semitic languages of Babylonia and Assyria, forms Dr. Langdon's special field of research and makes his services of special value to the Museum and to American scholarship.

Dr. Edward Chiera, Instructor in the Department of Semitics in the University of Pennsylvania, has been assigned, for copying and translating, a large group of Babylonian tablets containing lists of personal names. Dr. Chiera has prepared and submitted two volumes embodying these Assyrio-Babylonian texts. These two volumes have now been published by the Museum and constitute an important study of Semitic personal names. Dr. Chiera is now at work upon a third volume dealing with the same subject.

Dr. H. L. Lutz, formerly a student of Prof. Albert T. Clay in the Department of Assyriology at Yale University, was appointed Harrison Fellow in Semitics at the University of Pennsylvania at the beginning of the Academic Year, 1916-17.

Dr. Lutz has been engaged upon copying a series of Babylonian letters assigned to him, and preparing a volume thereon for the Babylonian Series of the Museum.

Dr. George A. Barton, of Bryn Mawr, has in preparation a volume of religious texts based upon tablets which have been assigned to him from the Museum's collection and which he is copying. Among these tablets, which are written in Sumerian, is one which contains an account of the Creation of Man.

THE MUSEUM JOURNAL

Mr. Richard B. Seager has completed his report on the work at Pachyammos in Crete conducted during the years 1914-15. The volume, which is illustrated by many plates showing the pottery discovered, has recently been published in the Anthropological Series of the Museum.

The lecture course on Saturday afternoons was concluded on March 17th when Dr. Fay Cooper Cole delivered the eighteenth lecture of the series. At each of these eighteen lectures the Auditorium was filled to its capacity. The Museum feels justified in having taken pains to secure the best lecturers upon topics of special interest.

The Wednesday afternoon lectures provided for the teachers and pupils of the elementary schools and the high schools, proved again this season that this direct educational feature of the Museum is one that appeals both to the teachers and to the pupils. Twenty-one talks, illustrated by stereopticon and motion pictures, were given in the Auditorium, which was filled on each occasion with teachers and their pupils.

The Society of the Sigma Xi held its third meeting of the session at the University Museum on Wednesday evening, March 14th. The exercises were held in the Auditorium and afterwards the members and their friends who were present inspected the exhibition rooms.

Arrangements have been made for a special exhibition to include some of the more important of the recent acquisitions of the Museum, together with several groups of objects which have been lent by the owners for the occasion. The exhibition will consist of European tapestries, Oriental rugs, Chinese sculptures, paintings and art pottery. There will also be included in the exhibition certain important accessions in Greek sculpture and pottery and the John Thompson Morris Collection of coins.

THE MUSEUM JOURNAL

The following persons have been elected to membership in the Museum.

FELLOWSHIP MEMBERS

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Cyrus H. K. Curtis

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Miss Margaretta Hutchinson

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Washington Barnhurst

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Dr. Clement Biddle

Mrs. John Markoe

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A. Robinson McIlvaine

Charles L. Borie, Jr.

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William Findlay Brown

Arthur E. Newbold, Jr.

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Mrs. Joseph M. Rogers

Thomas Devlin

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Allen Evans

Miss Emily W. Sailer

Pasquale Farina

Mrs. William J. Strawbridge

Hector T. Fenton

Mrs. Edward Starr

William C. Ferguson

Warner J. Steel

Miss Edith T. Fisher

Hollinshead N. Taylor

Benjamin W. Fleisher

Walter S. Thomson

Miss Hannah Fox

Mrs. Edward Dale Toland

Miss Alice M. Freeman

Carroll S. Tyson, Jr.

Charles Freihofer

Herbert Welsh

John Marshall Gest

Thomas Raeburn White

Mrs. A. T. Getzé

Henry Wharton

Warren G. Griffith

Marshall S. Winpenny

Dr. S. McC. Hamill

Mrs. Dillwyn Wistar

Florence J. Heppe

Edward Randolph Wood

Mrs. Horace Binney Hare

Mrs. Walter S. Wyatt

FORM OF BEQUEST

I give and bequeath to the trustees of the University of Pennsylvania the sum of.....dollars, in trust for the uses of the University Museum. (Here specify in detail the purposes.)

MEMBERSHIP RULES

There are four classes of membership in the Museum:

Fellows for Life, who contribute.....	\$1,000
Fellowship Members, who pay an annual contribution of.....	\$100
Sustaining Members, who pay an annual contribution of.....	\$25
Annual Members, who pay an annual contribution of.....	\$10

All classes of members are entitled to the following privileges. Admission to the Museum at all reasonable times; an invitation to any regular reception given by the Board of Managers at the Museum; invitations and reserved seats at lectures; the Museum Journal; Copies of all guides and handbooks published by the Museum and free use of the Library. In addition to the privileges to which all classes of members are entitled, Sustaining Members and Fellows receive, upon request, copies of all books published by the Museum.





In the Solitudes of Central Alaska. A Scene on the Kantishna River.

Photo by G. B. Gordon, July, 1907.

THE MUSEUM JOURNAL

VOL. VIII

PHILADELPHIA, JUNE, 1917

No. 2

REVIEW

NOTWITHSTANDING adverse conditions which could not fail to affect the fortunes of all public institutions in this country such as the University Museum, the constructive work of the Museum during the first half of the current year has not been diminished. At no corresponding period have more important accessions been made. At the same time, reports from the expeditions in the field have indicated satisfactory progress in their several fields of labor.

IN the last number of the JOURNAL attention was called to the accessions of the first three months of the year. Among the objects described in detail was a Greek stela on the fourth century B. C., the importance of which is well known to everyone acquainted with ancient Greek sculpture.

Following the purchase of this monument of ancient Greek art, the Museum had occasion to be congratulated again upon the acquisition of a great Chinese sculpture of the Wei Dynasty which was acquired through the generosity of Mr. James B. Ford. This sculpture has on its front a statue of Maitreya, the future Buddha and Messiah for whom the Buddhist world is waiting, and on the reverse a long inscription in ancient Chinese characters. It has been set up in a central position in Harrison Hall directly opposite the entrance, where it has an appropriate setting as the most conspicuous object in the room and the most impressive monument of ancient Chinese art that has come into the possession of the Museum. The gold and colors with which the stone was overlaid still cling to the face and to the draperies of the statue, as well as to

the canopy that rises above its head, imparting, by their softened glow, a warmth to the whole monument, that harmonizes well with its present surroundings.

The date, 516 A. D., which is found in the inscription on the reverse, is of peculiar importance, for it enables us to assign this great work beyond dispute to the Wei Dynasty and helps to establish a chronology for the early periods of Chinese sculpture and especially to identify the style and method of treatment that marked the movement that flourished under a powerful Buddhist impulse in the Northern Kingdom of Wei during the fifth and sixth centuries.

It is not possible to mention individually all of the objects that have been acquired during these months, but there is one in addition to those mentioned that claims the distinction of special reference. The object referred to is a large rug of the K'ang Hsi Period (1662-1723 A. D.) which has lately been purchased and which is now on exhibition in Harrison Hall. It measures twenty-four feet square and is in a perfect state of preservation. Ancient Chinese rugs are rare and this fact, together with their great beauty of design and color, ought to make the acquisition of so perfect an example an occasion for renewed interest on the part of students and lovers of art generally in the opportunities which the Museum affords for advancing their knowledge and increasing their enjoyment. The accession of this remarkable rug calls attention also to another use of the Museum, which is to provide correct models for practical application in those industrial arts which are founded on the adaptation of artistic design to mechanical processes, such as the manufacture of rugs. In other words, by showing good models, the Museum can bring together the artist and the manufacturer in a combined effort to get rid of ugliness.

MR. C. W. BISHOP, Assistant Curator of the Section of Oriental Art, whose departure for China was announced in the last number of the JOURNAL, arrived in Japan on the 31st of March. He writes from Nikko, under date of April 10th, as follows.

"The day following my last letter to you, dated March 7th, Professor Sayce left for Honolulu, after a final talk in which he suggested that we investigate together the work done in China by Japanese archæologists, with a number of whom he is acquainted. The Japanese have done some very important work in that field, and

it will be well for us to familiarize ourselves with their results. In no way, I am sure, could this be better done than through Professor Sayce's help, for he stands as high with the Japanese, both officials and students, as he does elsewhere; I think you know that he was decorated by the late emperor, and he tells me that he has been granted the privilege of seeing the Shosoin at Nara this year. I consider it a piece of very great good fortune that the Museum's actual field work in this region can be inaugurated so auspiciously.

I shall be leaving for China in about a fortnight. Much of the Japanese work along archæological lines has been done in Shantung province, and Professor Sayce has already put me in touch with one of the men who have done most there; he also suggested that I visit Tsing-tao on my way to Peking, which I can very easily do. So in all probability I shall go to Shanghai by boat, and see what can be done there in the way of additions to our library; then proceed by coasting steamer to Tsing-tao and thence to Peking, probably by rail."

The expedition to the Far East under Mr. Bishop's direction has been planned to continue for three years and while its general scope has been laid down on broad lines, the details of the work will be developed gradually by Mr. Bishop in the field. The principal purpose of the expedition is to pursue archæological and ethnological research. The history of Chinese art, especially in its earlier periods, is buried in the obscurity of the past, and, although it reveals itself in isolated and impressive outcrops, still awaits investigation, and the separate and fragmentary facts that have come to light remain to be coordinated. In these respects Mr. Bishop's work, through the aid of Chinese scholars and written Chinese records, may be expected to help to bring home to us a better understanding of the Chinese people, both in antiquity and in their historic present.

THE Eckley B. Coxe, Jr. Expedition to Egypt, after having completed a three months' period of excavation at Denderah, moved its camp to Memphis and resumed on that great site the excavation of the Palace of Merenptah, interrupted at the beginning of July, 1916, by the rising of the Nile. The plan upon which this expedition has worked during the last three years in Egypt has been to dig at Memphis during the season when the low Nile leaves that site dry, and to retire south to Denderah, which is above high water,

to dig there during the high Nile. Under this arrangement the first of March is about the time for beginning work at Memphis.

The expedition is made up of Mr. Fisher and his assistant, Mr. Sanborn, together with one hundred and sixty native workmen and foremen. Fortunately, conditions in Egypt have continued favorable for the work of the expedition. In one respect only was any change necessary during the present year. It was found that the price of food had advanced to such an extent that special provision had to be made for the workmen so that their earnings might be adjusted to their needs.

The following letter has been received from Mr. Fisher, written at Memphis on April 23d.

"I am much pleased with the prospect of this season's work. Instead of the entrance which I had expected at the north end of Merenptah court, we are apparently entering into another suite of rooms like that which we had at the south end. These rooms again had columns and door enframements beautifully inlaid with faience. Every month that we work on this building I realize more and more its interest and importance. I hope I shall not discourage you and the Committee when I say that now the extent of the building indicates that we shall be kept busy with a full force from six to eight years more. If my deductions are correct as to the extent of the building, we have at present only one small wing or a single building in a great group, the length of which from north to south is not less than four hundred feet. My only regret is that we cannot clear it more rapidly, but it lies eighteen feet below the surface. As an example of what we have done, in order to clear court 19 with its colonnade of thirty-two columns, we have removed upwards of 245,000 cubic feet of hard packed earth, and of the entire building itself we have cleared three-quarters of an acre on the same scale. This will give you some idea of the magnitude of our task."

The results of the excavations made at Memphis and at Denderah by the Egyptian Expedition have been extensive and important. Many objects of ancient art: sculpture, metal-work and pottery have been found. In addition to these, the architectural details of the great palace of Merenptah are being gradually uncovered at a depth of eighteen feet, laying bare the most important example of a royal palace that has ever been made known in Egypt. This palace is so large and so deeply buried that it will take some



G. B. Gordon at Lake Minchumina, Alaska, July, 1907.

Photo by MacLaren Gordon.

years to clear the entire plan, and this architectural feature of Mr. Fisher's discoveries when complete will furnish for study rich material of a kind that will not be otherwise accessible. Many of the movable objects that have come to light in the excavations will eventually be displayed in the University Museum. For the present they are stored in Egypt for greater safety.

When the Egyptian Hall of the Museum shall have been built, the discoveries of the Eckley B. Coxe, Jr. Expedition to Egypt adequately installed will afford a very impressive view of the life of ancient Egypt. As a part of that exhibit it is planned to reconstruct in the Egyptian Hall several of the rooms in the Palace of Merenptah showing the wonderful inlaid doors and lotus columns. Such an exhibit would comport well with the educational purpose of the Museum and would be a telling tribute to the work of the expedition. In order to effect this purpose it will be necessary to build an extension of the Museum for the Egyptian Section, such extension to consist of at least one large hall and several smaller halls. In order to take advantage of the opportunities that have been afforded the Museum in Egypt, to give the work of the expedition its due, and to give the public all the advantages that have thus been gained, the building of the Egyptian Section will be an obligation and a necessity.

NOT only have the Egyptian collections remained in Egypt, but collections assembled by Mr. Alexander Scott in India have, on account of the risk and high rate of freight and insurance, been stored in Bombay awaiting a favorable opportunity for shipment. Since the Museum has acquired so many fine examples of the Buddhist art of China, the collections which Mr. Scott has procured assume a more than usual importance for the Museum, because they will serve to illustrate the affinities that exist between the artistic expression of Buddhism in India on the one hand and in China on the other. As India was the mother of Buddhism and China the child, and as India derived artistic inspiration from the West, a comparison of early Buddhist art in China with that of India is full of interesting possibilities.

ALASKA is a country which, till very recently, has been left in possession of the natives, who, in turn, retained their original customs and their original arts. At the present moment Alaska is



Nome, Alaska.

undergoing a very rapid transformation through its exploitation along many lines of development. While this exploitation proceeds the native disappears, or at all events his customs and arts become obsolete. With this thought in mind the Museum, through Mr. John Wanamaker, has equipped two expeditions, one to work in the south and the other to work in the north of Alaska. By the generosity of Mr. Wanamaker, Mr. Louis Shotridge of the Museum staff, a full blood Indian of the Chilkat tribe, has been since the summer of 1915 working among his own people in southeastern Alaska. Mr. Shotridge's work has been marked by great industry and aptitude. Among the collections received are old works of art which have been handed down for many generations in the Chilkat tribe and which will be among the most prized possessions of the American Section of the Museum. It is our purpose to make a sustained effort which will afford in the end a complete historical and ethnological study of the Tlingit people, to whom the Chilkats belong, and to assemble in the Museum, collections which will faithfully represent their manners and customs and especially the rich and remarkable art which was an expression of their inner life.

The expedition to northern Alaska left Seattle early in June in charge of Mr. W. B. Van Valin and will proceed to work among the Eskimo on the shores of the Arctic Ocean. Some of these Eskimo have seldom been visited and still retain all the characteristic institutions which have been handed down from unknown generations.

The Museum possesses already an extensive collection illustrating the life of the Eskimo in which can be seen a great inventiveness on the one hand and an active artistic temperament on the other. The expedition to Arctic Alaska will forge an important link in our knowledge of the chain of pure Eskimo culture that reaches from Labrador on the Atlantic side of the continent all the way across the shores of the Arctic Ocean and Bering Sea to the northern Pacific. Almost all of this far flung culture area is already represented by the Eskimo collections in the Museum.

THE special exhibition, opened on the evening of April 11th, has given pleasure to the many visitors who have taken advantage of an unusual opportunity to profit by a very inspiring lesson in several departments of art. When this exhibition was opened, the new Chinese statue of Maitreya was shown for the first time and the invited guests had also an opportunity of seeing an exhibition

of Greek sculpture such as Philadelphia has not hitherto enjoyed. The collections of Greek and Roman coins were also shown for the first time. These several features of the exhibition remain as permanent integral parts of the Museum's collections. In addition were shown several loan collections which gave expression to the wish of the Museum to enlarge its interests, to strengthen its scientific and artistic uses and to amplify its educational work. These loans supplied for the time being, objects of the very highest importance of a kind that the Museum has not yet been able to acquire.

The collection of ancient Chinese jades was in itself an epitome of old tradition embodied in beautiful and curious carving and in the hardest material known to lapidaries; for jade was the medium chosen by the Chinese in ancient times to express in the subtlest terms of symbolism the thoughts and aspirations of mankind.

The vases of pottery known as Chun Yao, made by the Chinese potters of the great Sung Dynasty, must be regarded as unique examples of this exquisite and very appealing product of an age gone by, and of a technical knowledge that stimulates our imagination, though it baffles our skill.

To many people the supreme interest in the exhibition attached to the European tapestries. Among these were two that possess such exquisite beauty and such rarity that they invite special mention. These gems of the collection were two millefleur tapestries made at Arras in the fifteenth century. They belong to a class of tapestries of which very few are left and which in design, color and texture are quite beyond the resources of modern art and modern methods of manufacture.

TOGETHER with its constructive work along the lines which have been described, the Museum has issued during the first half of the year, five volumes in its regular scientific series. Four of these were issued from the Babylonian Section and one from the Mediterranean Section and all represent original work done in the Museum by its own scholars or by scholars working under their supervision and with the facilities for investigation and instruction which the Museum affords.



FIG. 38.—The monotonous Alaskan coast of Bering Sea is inhabited by the Eskimo.

Photo by G. B. Gordon.



Photo by B. B. Dobbs.

FIG. 39.—The Aristocracy of the Arctic. Eskimo girls at Bering Straits.

MY NORTHLAND REVISITED

Mr. Louis Shotridge, the author of this article, was born at the old Indian town of Kluckwan on the Chilkat River. He is a full blood Chilkat and is the son of a Chief of the Eagle side. Mr. Shotridge has been a member of the Museum staff since 1912 and was sent to Alaska in 1915 to study the customs of his people, a task upon which he is still engaged.—EDITOR.

UPON my arrival in Chilkat in the summer of 1915, I immediately set to work collecting material with a view to recording for the Museum a faithful history of the Tlingit people. I proceeded in the usual way of obtaining information from the natives, which is to hire an informant. For a while I traced events one into another and continued so until I discovered inaccuracies in many polished stories. The part that many Tlingit informants play in recording myths and other data has been to a great extent commercialized. Many important stories are polished ready to be given in exchange for cash. A desire to overcome this habit forced me to scheme as to the safest way to approach the natural self of the man whom I am to represent. I took all precautions and gave myself plenty of time. Meanwhile I made frequent visits to different families in various surrounding summer camps and noted different things that are of interest.

Like many other native tribes of America, the Tlingit people are wandering step by step away from their old customs and habits. Modern influences that are the causes of the heterogeneous changes in their lives are particularly noticeable at places where European immigration is encouraged by the prospect of beginning a new life. Most of the Alaskan Indians are fascinated by the new ideas of these white people and casually adopt them. Only a few affectionately hold to the teachings of their forefathers.

As soon as the campers started to move back to their winter quarters after the close of the summer season, I started preparing a shelter for my wife and myself in readiness for the approaching winter. We made our headquarters at Haines, a small town of about three hundred inhabitants at the mouth of the Chilkat River. From here I planned my winter trips to other villages.

In the latter part of the autumn I made my second visit to Klaku-aun, my birthplace, an ancient town situated about twenty-three miles up the Chilkat River. I came this time to pay my respects to a "Call together" ceremony, which had been proposed by my family.

The call together is a revival of what has been known as a "Drum-bearing" ceremony (interpretation of the Tlingit name for a mourning ceremony). In former times it was performed immediately after a death.

I remember clearly when I was a boy the last drum-bearing ceremony which was performed at Klaku-aun by the Gana-tedi' clan of the Raven side. The deceased man was not of a high caste, but a member of a well to do middle class family. The body remained in his family house for four days, during which time his clansmen conducted the mourning ceremony. Customarily the relatives of the widow are called on to perform all the labor that is connected with the funeral.

After the corpse had been dressed, his hair well combed, face painted and his moccasins and mittens well secured, in short, prepared as a man for a journey, he was seated in the rear of the room and the Gana-tedi' began to enter the room, each person presenting his own contribution of skins, blankets and other representations of currency, which were placed on a line stretched across the rear and when this was filled more lines were stretched in other conspicuous places, where each object might be seen.

The women began the first day by fasting and each had some one from her opposite side to bob her beautiful long hair at shoulder length. Two of the women were chosen to take care of the widow, to bathe and dress her. Meanwhile the men held a council, laying out plans, rehearsing speeches and songs for the occasion.

At the close of the first day a na-ka'ni (brother-in-law of the clan) was sent out to call together in the family house the clans of the Eagle side. Presently the guests began to arrive. A receiving man who had taken his position at the entrance announced individual leaders as they passed into the room. Each man was seated according to his social standing; thus when the chief of the Kagan-tan (the leading clan of the Eagle side) entered, his proper place was called out: "To the rear middle, to the seat of your uncles, you are seated in the name of our uncle. . . ." (Here name of some clansman who had passed away to the land of souls was mentioned.)

On each side of the chief were seated leaders of the Shungu-kedi' and Nays-a'di clans, and to right and left of these three men other representatives took their places, each according to his rank. When the first row had been filled the seating was continued in the second, third and fourth rows. In the meantime four introductory songs were sung.

When all the guests were seated a spokesman of the mourners delivered a speech, expressing gratitude for the favor rendered on



FIG. 40.—The scenery along the coast of Southeastern Alaska presents a striking contrast to that of Northern Alaska. See page 101 and Fig. 38.

the part of the opposite side. Meanwhile leaf tobacco was prepared in the Gana-tedi' ceremonial pipes, each pipe bearing a name pertaining to the crest animals. At the conclusion of his speech the spokesman requested that the Raven's servant-pipe be passed to the leading man of the Kaguan-tan, du-dji-de' (to his hands). In the same manner other pipes were passed to all the guests. Some of the tobacco was placed in a small dish which was held over the fire while one of the directors called out many names of his clansmen who had passed away; brave men and noble men who were worthy of being remembered on all occasions of this kind. After so many men

had been named to it the dish of tobacco was dropped into the fire. I used to wonder how so many souls could each have his share of so small a quantity of tobacco, but I learned later that the spirits of all things that are sent to the land of the dead in this manner are supposed to grow.

Each mourner was then called on, to express his or her grief, which was expressed in each case by songs, sometimes preceded by brief speeches. The songs were very solemn, songs that were not sung on ordinary occasions. The mourners sang while the guests of honor smoked the large pipes until about midnight. Thus the soul of the dead one was supposed to have passed the first of the four stages of the road to the land of souls. This was repeated on four successive nights and during the four days the guests were called in regularly to partake of the foods of which the deceased man had been fond in his lifetime. No food at this time was passed to the spirit land other than what was taken from the widow's dish which was placed always at the edge of the fire for a slow consumption. This was supposed to pass to the departing soul of her husband.

In the early morning of the fifth day the funeral took place. The corpse was tied in the form of a long bundle and by means of strong ropes was hoisted up and passed out through the smoke-hole in the roof of the house. This custom was to avoid the living persons from passing through the same exit with that of the dead. The body was then carried to a place behind the town and laid down on a large pile of firewood which had been prepared on the previous day. The cremation then took place. As the fire blazed more songs were sung, songs composed with words signifying the passing of the soul through the final stage. When the body had been incinerated the burned logs were rolled aside, the ashes gathered into a marked sack and placed in one of the wooden chests in the family grave house.

After they had fulfilled what they considered a duty toward their opposite side, the Eagle participants were called in for the last time, to be paid for their faithful services. The property that had been contributed was then taken down and counted. The skins and blankets were distributed among the guests. A formal dinner was served immediately after the final payment, during which a small portion of the food was placed on the fire in the same manner as the tobacco.

In the event of a death among the higher castes the mourning

ceremony was prolonged to eight days and performed with more elaboration and formality.

A few days after the conclusion of the ceremony the widow called together all the clansmen of her deceased husband and before them the estate including all personal effects was brought out. This property the widow offered to distribute among the clansmen, but the directors, contrary to her noble offer, requested that the property remain in its former state and a young nephew of the



FIG. 41.—Native fishtraps on the Chilkat River.

deceased man was called out to take the title of his uncle, and with unanimous good wishes of the Gana-tedi' clan the widow entered to continue her life with the new husband. Of course all further obligations with regard to the erection of a memorial on the grave house of the rich uncle settled on the young man's shoulders.

It will be needless to go into detail of the call together ceremony which my family performed at Klaku-aun in 1915, because some modern influence is unavoidable. However, regardless of these changes, a real Tlingit is inspired by the speeches and by the solemn behavior of the aged members of my clan, the Kaguan-tan.

I spent about two weeks at Klaku-aun, leading the life that I seemed to have left in the past.

It was not until the month of December that I decided to organize an evening story telling league at Haines. The superintendent of Alaskan schools permitted me to use the United States public school house in which our meetings were conducted two evenings a week by different native members.

The main object of the organization was to impress on the minds of the modern Indian children the former life of the tribe to which they belong. For my part I told of my observations on life among the Caucasians and the customs and habits of other progressive races, while the older members of the league gave, with the old time spirit, narrations on various historical events and legends relative to the natural former life of the Tlingit people. In order to retain the originality of these narratives, I took my notes in a phonetic form that I hope to translate and interpret some time soon.

In the early part of the spring I went to Wrangell, a town about three hundred miles south of us, with a view to obtaining an old specimen which I learned to have been in the possession of the head family in the community there. I arrived in Wrangell only to learn of the instant death of Shakesh the chief of the family.

I took advantage of being with these people, the early history of whom is in alliance with that of the Chilkat Tlingit. I managed to gain acquaintance with some of the old people, from whom I learned much about their early connection with other Tlingits who are found in the northern direction of them.

Before midnight after the close of my third day a small mail boat carried me away from Wrangell to the tribes on Prince of Wales Island. After a few days travel I came among the Tikanaw clan of the Raven side, the enemy in gone-by days of my own clan, the Kaguan-tan. These people had recently formed a comparatively new settlement in Klawalk village. I was received by an unexpected host, a relative who had married into the Tikanaw clan and became a missionary among them. To be sure these are peaceful times for them and my clan, but I did not expect that my people had sent a missionary to our old enemies.

On the day of my arrival in Klawalk the chief of the community asked me to give his people a talk on one of the subjects that I had offered my own people in Chilkat. There were differences of opinion as to what I should give. Most of the men were very much in

favor of a talk on the modern life in the progressive world of the white man. The decision, however, rested with me and as it was yet forenoon I had time to decide before the evening. After our noonday meal my host offered to go through the village with me, that I might become acquainted with some of the old families. After brief interviews with some of the old men we decided on a certain subject that we thought would be appropriate for my talk.

It was obvious that the younger people, most of whom are half white, are very much fascinated by the ways and language of



FIG. 42.—Indians fishing with a scoop net in the Chilkat River.

the white people and as a result had organized a society called "The Alaska Brotherhood," which is said to have been originated somewhere farther north as "The Alaska Native Brotherhood." Since the middle adjective "native" conflicts with their ambition to become white men, it was necessary for the Klawalks to omit it. Apparently the organization was well represented at the meeting, as I had all that I could do to come through with a talk on "Preservation of natural character."

I waited one week in Klawalk for the mail boat, during which time I took a few notes and made a brief study of Tlingit foodstuffs of this vicinity.

From Klawalk I paid a brief visit to the Haida tribe, who are found at the southern end of the island. Our boat made a hurry call at Hydaburg, a new settlement of the tribe. Just before we left the place I met a Tlingit woman and from what I gathered from her, these people had only recently deserted their old village and moved to this place with a view to beginning a new life which necessitated abandoning all signs of the old Haida customs.

A few hours found us at Howkan, a deserted Haida village. Only one native family and about three white missionaries were in the old village. After I took photographs of some old totem poles that are still standing, I paid a hurried visit to the family. The wife happened to be a Tlingit who appeared to enjoy our brief conversation in our mother tongue.

After two weeks' visit among the tribes of Prince of Wales Island I landed in Ketchikan, a town of about twelve hundred inhabitants, which is said to be supported by nearly all the new industries of the territory that lure native tribes from the many surrounding villages. Most of the natives here appeared to me to be merely existing in composite with a populace of various races of the earth.

Ketchikan was formerly an ancient Tlingit village, the remains of which may yet be seen at a certain section of the present town, indicated by a few memorial totem poles standing in front of some native family houses, but these relics are almost enclosed by new rustic buildings of new settlers. I went to call on native families whom I had known to live there, but to my disappointment I found their doors closed and have learned since that my people had moved out some months past to live in a boarding house.

It is evident that the natives in this community can no longer hold on to that which has been their own from time immemorial.

Not until I learned that all the older people were out of town for their summer camps did I give up the idea of trying to obtain some information from Ketchikan. On the following morning I boarded the first northbound boat and in twenty-nine hours I arrived in Juneau, the capital of Alaska since 1906. The population here is about three times as large as that of Ketchikan and principally supported by mining. After engaging a room in one of the hotels I went to visit the Indian village which I had known in my boyhood days. When I came in view of this ancient Aku-quan village it appeared to be very much like a live mouse confronting a hungry

cat. The white settlers have formed a circle around it: on the hillside in the rear of the old village are built on high stilts many new rustic buildings with their back porches protruding toward the rear gables of the old native houses, while the former canoe way is bridged by a broad boardwalk with rows of shacks.

I found the natives in the old village in no more prosperous condition than those of Ketchikan. I called on some of the families, one or two of which seem to be content with the attics of their shacks, while the lower rooms were rented by other families who



FIG. 43.—The Indian town of Chilkoot.

apparently had missed a space for their own shanties. The men were too occupied to heed one like myself with old fashioned ideas. If not preparing firewood they would be packing lunch pails getting ready for the approaching hour on which they must start to do their turn in one of the gold mines. In one of the upper rooms we were obliged to carry on our conversation not louder than whispering for fear of awaking someone in another part of the house who may have been enjoying a nap that he had missed during his night shift at the diggings.

From what I gathered, it is obvious that the Aku-quan have

yet to realize the approaching displacement of the old village which had been so dear to their forefathers, if the press for gold continues.

After four whole fruitless days among the Aku people my boat arrived and for the second time I retreated in my efforts to acquire information that may be of some value in my work.

When I returned to the Chilkat people, I fully appreciated, for the first time, the differences under which the North Pacific Coast tribes exist. We Chilkats, unlike some of the others, are as yet unnoticed, thanks to the worthless ores in the mountains surrounding our villages.

I arrived in Chilkat just in time to join in the eulachon fishing season. The primitive methods of catching and extracting the oil from the fish are still retained by the Chilkat people. The fish are brought to shore by canoe loads, emptied into pits made on the bank and left to putrefy. Each pit holds about four canoe loads of a ton capacity and there are from one to three pits to each household.

Eulachon oil is said to have been put up in much greater quantity in former times when there was much more demand for it, but since the present generation seems to be satisfied with the fair substitute of lard and bacon grease, the preparing of the ancient lubricator is left mostly to the older members of the tribe, who still favor the superiority of the oil.

After the oil supply had been placed in store most of the campers moved down to the mouth of the river, where they camped only for a few days, catching the early silver salmon with harpoons. The trawling method has been adopted by most of the Alaskan Indians, but the Chilkat fishermen seem to have more pleasure in lying in wait with their long handled spears on the Chilkat tide flats for the ripples indicating the upstream bound of the king salmon.

Many changes, of course, have taken place in our preparations for the main food preparing season of the year. Instead of setting salmon traps and making gaff hooks we line and mend our gill nets, and instead of overhauling canoes we now spend most of our time with motor engines. Regardless of all these modern conveniences, it is strange to say that the primitive schemes are holding their own among the Chilkat people.

In the early part of the summer when the Indians began to settle on their various hunting grounds, I moved out to camp with the Chilkoot families in their village, about nine and a half miles north of Haines.

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I acquired a small gasoline launch which enabled me to make my trips on calm days to other camps and come to town for my supply of provisions.

Here again I lived the life which I desire to illustrate: performing the daily duties of my people and listening to their after day's work stories, in fact, back to my boyhood days once more. In spite of our frequent associations with the white people, these old families, to my favor, took much pleasure in expressing their old time feelings and living the old life over again.

The first snow was my sign to move my camp outfit down the Chilkoot rapids and make my way back to our winter quarters.

L. S.

A BABYLONIAN TABLET ON THE INTERPRETATION OF DREAMS

REVELATION of future events by dreams formed an important discipline in the ancient science of divination. The subject was treated at great length by the professors of Greek divination, Artemidorus of Daldis having devoted five books to this subject alone under the title *Onirocritiques*, or the Interpretation of Dreams. The Greeks regarded the psychological phenomena of dreams as direct revelations from the gods, provided always that the mental preoccupations or physical condition of the dreamer did not interfere to entangle the soul in mortal influences. Dreams are the sons of night and the brothers of sleep, said Hesiod. The classical peoples generally distinguished the oracular source of dreams from all other means of divination. The dark-winged spirits of dreams came to men only in the night, hence their native land was the shades of the lower world. They are the children of Gaea, or Earth, said Euripides, and in this view the mystic Pythagoreans concurred. All other revelation fell under the patronage of Apollo, god of light, he who sees the secrets of all things.

Therefore in dreams it is the deities of the lower world that reveal the future, whereas hepatoscopy or divination by the interpretation of signs on animals' livers, astrology and other favorite methods of disclosing the intentions of the gods fall to the patronage of the powers of light.

In antiquity Babylonia received universal recognition as the home of the oracular sciences. Here astrology and liver divination attained a development and influence unparalleled. Cuneiform literature is already equipped with an extensive corpus of texts devoted to these mystic subjects which led on the one hand to the scientific development of astronomy and on the other to the study of anatomy. Extensive works on teratoscopy or the interpretation of extraordinary events, lecanomancy or divination by omens taken from the movements of liquids in cups, are known. Up to the present, however, only fragmentary documents of the great cuneiform series on oniromancy have been recovered; these belong to the Asurbanipal Library, excavated at Nineveh and now

in the British Museum. The tablets on which it is actually stated that the phenomena described were seen in dreams are not numerous. But a number of oracular tablets have been classified as dream omens, since their contents point obviously to that conclusion. For this reason the writer has classified a remarkable tablet in the University Museum as one of those on which the Babylonians of the time of Moses, or the Cassite period, wrote down their ideas concerning things seen or done in dreams. The tablet, still in almost perfect condition, belongs to about the fifteenth century B.C. At the end the scribe has written the note "Altogether there are 86 lines (or omens)."

The sun god Shamash in Babylonia, like Apollo among the Greeks, presided over the mystic disciplines of divination as he did over the institution of laws and their application. Although there is a remnant of evidence to connect the land of dreams with Enlil the earth god in Babylonia, nevertheless this ancient association disappeared and under the influence of the more popular oracular methods of Shamash, this mystic function of the seers came also under the patronage of the great god of light. The goddess of dreams is the daughter of the sun god, said the Sumerians, and a god of dreams was an attendant in the courts of the sun. In the history of Sumer, Babylonia and Assyria the records have preserved accounts of royal dreams in which the mother goddess Ishtar sometimes appears in person before the king, announcing plainly the course of events.

Early Hebrew tradition also preserves dreams in which the Hebrew God himself appeared to Jacob, Laban and Solomon, grant-

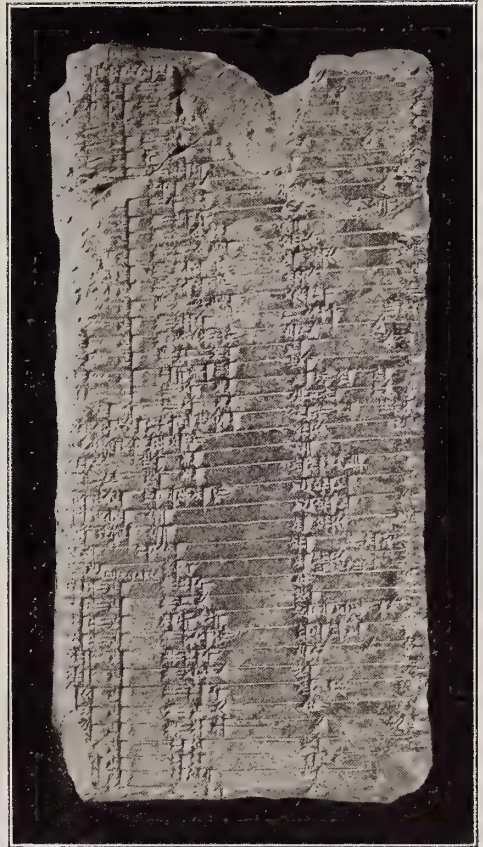


FIG. 44.—Dream Tablet. (Obverse.)

ing them direct oracular instruction. Visions of that kind required no interpretation and were considered direct messages from the gods. The earliest dream vision recorded in cuneiform is the famous symbolic scene which appeared by night to Gudea, Sumerian priest king, who ruled at Lagash about 2700 B. C. In this dream,

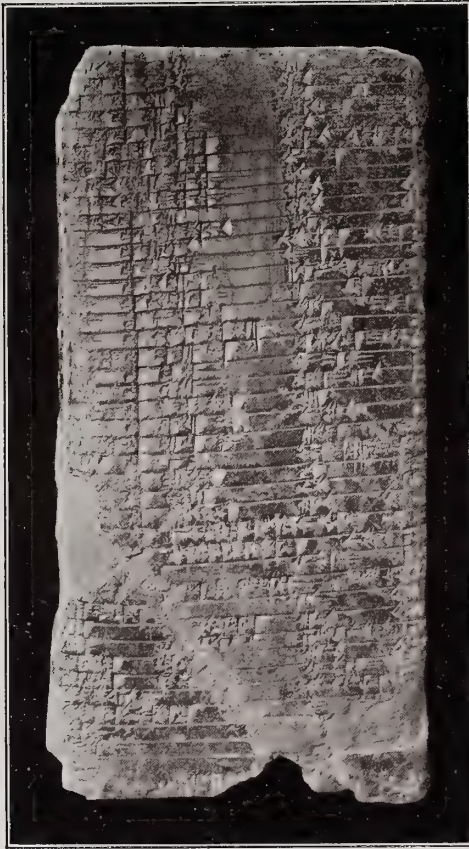


FIG. 45.—Dream Tablet. (Reverse.)

which appears to have occurred in the temple itself, an example of incubation, the king sees men and women moving before him with various objects in their hands or supported on their heads; an ass crouches beside one of the figures. These figures and their deeds are all interpreted by the goddess Ninā in symbolic terms whereby the king is informed that the gods have commanded him to build a temple. Here the interpretation by the goddess Ninā is perhaps really the work of a diviner attached to the cult of that ophidian deity. At any rate, in this the most ancient example of oniromancy, a deity originally connected with the earth and the lower world appears as the interpreter of dreams.

Oniromancy has been persistently connected with necromancy or revelations by the apparition of the souls of the

dead, who usually appear in dreams. The connection of the two ideas is essential to the conceptions of dreams as messengers of the infernal deities in whose domains also dwell the shades of men.

Ordinarily, however, visions of sleep are not direct revelations, but their significance rests upon obscure symbolism and historic conventions. For example, in Babylonia, as in Greece, the right hand was the side of good luck and the left of misfortune, since

these people in taking auguries usually faced the north.¹ In this way the right hand is toward the lucky east and the left hand toward the unlucky west. This principle of orientation is employed in the tablet in the University Museum to interpret certain things seen by a dreamer.

Thus lines 27-9 of this tablet read as follows.

"If he gaze toward the right his adversary will die.
If he gaze toward the left his adversary will overcome him.
If he look backward he will not attain his desire."

Here we have three interpretations of actions seen in a dream all based upon the widely accepted principle of the lucky east, the unlucky west and south. The negative side of this principle appears in lines 47f.

"If his right eye flow, sickness will appear.
If his left eye flow, his heart will be glad."

Here the interpretation is made on the principle that a defect of or anything disadvantageous to the right means bad luck, and anything disadvantageous to the unlucky left means good luck.

The same principle appears in lines 60f.

"If he bites his tongue at the right they will oppose him with enmity.
If he bites his tongue at the left his heart will rejoice."

According to this tablet the upper lip is the side of good luck and the lower lip of bad luck, that is up is propitious and down is sinister. So we have in lines 52f.

"If he bite his upper lip joy will not be given him."

That is injury to the lucky part is of ill omen. But—

"If he bite his lower lip he will be blessed."

That is injury to the unlucky part points to a propitious future. Our tablet in lines 20f regards the sky as unlucky and the earth lucky.

¹ See FROTHINGHAM, *American Journal of Archaeology*, 1917, p. 60. So far as Babylonian orientation is concerned his conclusion is not sustained by the tablet here described. This Nippur dream tablet gives proof of the lucky right and the unlucky left. The omens taken from births and the liver almost invariably follow the principle that a defect on the left of an organ or part of an organ means good luck, and a defect on the right means bad luck. This proves just the opposite of the generally accepted view of the lucky left and unlucky right in Babylonia. A defect on the lucky side is of evil portent, and *vice versa*.

"If he look toward heaven there will be his undoing.
If he look toward the earth he will be blessed."

The principle upon which this interpretation is made may possibly revert to the ancient antagonism between the gods of light and darkness, of day and night. Since this tablet deals with dreams which were originally regarded as revelations sent by the underworld deities, for the savants of oniromancy earth would here be lucky and heaven unlucky. Perhaps, however, some other unknown principle obtained, or some ancient example of this kind may have become the norm for all future interpretation. That is, perhaps in antiquity some king in his dream saw himself looking heavenward and it turned out to be an evil omen. These specific cases if noteworthy were recorded in the books of the Babylonian diviners as in Greece. Probably a large number of the interpretations were based upon these ancient observations.

The following forecasts in the tablet are based upon simple suggestion of ideas or analogy.

"If a hunchback seizes him, a curse will smite him.
If he strangle his nose, there will be his debasement.
If he flays himself, there will be his debasement."

On the other hand, we have in the following line a possible example of a play in etymology or double meaning of words, a method so frequently and absurdly employed in the interpretation of Greek dreams. For example, according to Greek oniromancy if a man sees a pea (*pisos*) it is of good omen because pea signifies confidence (*pistis*).¹ I am unaware of any etymological suggestions in Babylonian quite so absurd as this or many others employed in Greek, but interpretations of this kind do occur. Line 34 of the Museum tablet has the following: "If a man presses his nose," the omen is good. Here the word for press (*muššudu*) is probably associated with a word from the same root (*muššidu*) which means abundance. On the other hand, this root yields a more common word (*mašiddu*) which means oppression, tyranny, and hence in other omens the same verb is taken to indicate an evil omen.

A good example of the principle of pure analogy in prognostication is afforded by line 23 in this tablet.

"If when he discourses he looks at the ground men will speak lies about him." Now one associates mendacity with lack of frank

¹ See BOUCHÉ-LECLERCQ, *Histoire de la Divination dans l'Antiquité*, Vol. I, 314.

behavior in speech and if the dreamer sees himself or another behaving thus in a dream the omen indicates that others will behave so toward him. In the same way whispering is associated with clandestine conduct, wherefore if the dreamer whispers he receives the following omen:

"If he whispers shame will be brought upon him."

Thrusting out the tongue has been universally considered bad manners and consequently of evil omen in dreams. Line 67 interprets this act as of evil omen.

"If he lolls his tongue, goodness of heart will not be granted him."

The science of the diviners, however, not infrequently incorporates prognostications and solutions of signs whose principles are completely obscure to us. According to this tablet, biting the tongue in a dream indicates that the man will acquire power and wealth. Rubbing the lips either on the right or left side is of happy omen. On the other hand, rubbing the neck (?) or back (?) indicates that he will be ill. These are probably ancient observations and facts handed down from one generation of dream interpreters to another and incorporated in the text books on onirosopy.

The hunter's bow being connected with conquest and the chase in real life was a prophetic symbol of good omen in the Assyrian books of dreams.

"If he carries a bow his hand will obtain booty.

If he carries a bow and lets it fall he will obtain despoilation for himself."

Seeing the ghost of the dead in dreams invariably indicates calamity and death for the sleeper. As in Greece, so also in Babylonia the books of divination assign specific influence to each kind of grain, herb and tree. The carrying of the fruit of the date palm indicates sorrow. If one dreams of carrying salt on his head it is of evil import. On the other hand, carrying barley in the street indicates that the dreamer will overcome his adversary. The reasons for these prognostications are entirely unknown and the mystic books contain no elucidation. However, the two following omens are self-evident:

"If he carries beer in the street his heart will be glad.

If he carries water in the street his sins will be forgiven."

The principle of association explains the interpretation put upon these two substances. Liquor was naturally connected with exaltation of the spirit. Water in Babylonian religion was the principal purificatory substance employed in the magic rituals of atonement. The interpretation of the vision of carrying water was, therefore, suggested by the rituals of expiation.

The tablet in the Museum is the earliest known representative of the Babylonian works on the interpretation of dreams and indicates sufficiently that the Babylonian diviners had already adopted most of the principles which we find in the more extensive but later works of the Asurbanipal Library of the British Museum. Their doctrines spread throughout western Asia and were known to the Hebrews. The story in Judges VII. 13 of the soldier of Gideon will cause every Assyriologist to recall the similar incident in the life of the soldier king of Assyria, Asurbanipal. Gideon's depleted army encamped by night over against the multitudes of Midian. And a soldier had a dream. "A cake of barley bread tumbled into the host of Midian, and came unto a tent and smote it that it fell." And the soldier's companion interpreted it to mean that Gideon's army would annihilate the foe.

Asurbanipal, in the middle of the seventh century B. C., about to advance against the Elamites, appealed to Ishtar, goddess of battle, in the night. And "a certain seer lay down and dreamed an ominous dream." And he saw the goddess arrayed for battle with bow and quiver standing in audience with the king, saying, "Look thou up for making battle. Whither thy face is set I advance." And the seer heard the king reply, "Where thou goest, with thee I will go, oh queen of queens."

The Hebrew prophet Jeremiah censured the faithful of his time (first half of the sixth century) for consulting the wizards and dreamers. Nevertheless the belief in this mystic phenomenon as somehow connected with the spirit world survived into the New Testament period and has not been entirely banished from the popular beliefs of today.

S. L.

A VODOO DRUM FROM HAYTI

DURING the first three centuries of colonization of the New World many of the native customs and beliefs of West Africa were introduced and retained by the slaves. Of these, fetish worship with considerable development or modification survives even to the present time. In Hayti, as the Voodoo cult with its human sacrifices, this worship is the most primitive and degraded in the two Americas.

Attention was drawn to the cult recently by a Voodoo priest's drum presented to the University Museum by Mr. J. Maxwell Bullock, who had received it from Major Alexander Williams of the United States Marines. During the insurrection in 1916 in Hayti it had been confiscated and its head punctured because the beating of a drum was the signal to assemble the Voodoo devotees and to incite them to a religious race war. The drum is carved from a log about two feet long and tapering from ten inches down to five inches in diameter. Over the large end is stretched a rawhide head which is held tight and in place by means of five projecting pins and a piece of native-made rope.

Voodooism or Voodoo has been somewhat modified in the West Indies and North America. In Hayti on account of the negro rule and freedom of religion the original customs and beliefs have been retained, and, beginning with the insurrections against the whites in 1790, an element of racial hatred has been added. In Cuba the early Roman Catholic Church had allowed the Voodoo worshipers some latitude which has been enlarged under the republic until now many of the negroes are strongly tainted with this racial hatred. In Jamaica the strictness of the English authorities, who have combated the practices of the cult since 1640 has modified it into a form known as Obeah. In Louisiana the term Voodoo has been modified to Hoodoo, which has some connections with the early cult. Elsewhere in the United States, especially in large cities or in communities where there are many ignorant colored people, there are some who serve as hoodoo men or conjurors and sell all sorts of charms to the superstitious blacks.

In order to get an idea of the importance of the Voodoo or

Obeah man, a few beliefs and customs of the negroes of Jamaica and Hayti must be given. They believe that the body has two spirits, a good one that returns to Africa and a bad one that in the form of a spirit or "duppy" remains in the vicinity of the dead. In order to keep these duppies from settling about the house in case of a death, all of the standing water is thrown out. Food and rum are provided to propitiate the dead man's duppy and furnish food for the good spirit on its journey. This food and drink furnish material for a wake which must be repeated nine days later.

At child birth the infant is protected by a green necklace emblematic of the sacred green snake. In some places, at the present time, a Bible and a pair of scissors, opened to form a cross, are placed under the child as additional protection. The child is not taken out of the house until it is nine days old, when it is strong enough to withstand the duppies. These duppies have solid bodies and are unable to go through walls like the ghosts of more civilized peoples. On this account the negroes stop up all of the cracks of the house at night to keep the duppies out. While asleep clothes are worn over the head, as it is here that the duppy prefers to catch a sleeping person. After dark the duppies are about, and the blacks will not venture out of doors except in crowds, and then with lights and a great deal of noise to frighten the spirits away.

It is the Obeah or Voodoo man who knows how to combat the duppies, which he can sometimes bottle and compel to do his bidding and destroy an enemy. With his knowledge of sorcery and witchcraft he is able by means of incantations, weird ceremonies, cabalistic drawings and charms to perform his special functions and maintain a high standing in the community. A good Voodoo man has a marvelous knowledge of medical and poisonous substances and is cunning enough to be conservative in his claims for his medicines and charms. To him the negroes go to be cured of their disorders, to get help to avenge themselves on some enemy, to get aid to win the favor of a member of the other sex, to discover and punish a thief or an adulterer, and to predict future events. From him are to be purchased charms consisting of bottles, old rags, egg shells, blood, feathers, parrots' beaks, dogs' teeth, alligators' teeth, grave earth and rum. These charms will bring luck and also protect the owner from evil. By the negroes the Voodoo man is held in such fear and awe that in case a man learns that a Voodoo has cursed him he will quite likely pine away and finally die of fear. Also, if a thief finds out

that the Voodoo man is after him he will usually confess and make restitution.

In Hayti the basis of Voodooism is the frank worship of a sacred green snake that must be propitiated in order to keep off the evil duppies. The meetings of the cult are held at night about bonfires in secret places in the forests. The presiding official is an old man "papaloi," or woman "mamaloi," who has gained renown as a Voodoo sorcerer. After assembling, all present take an oath of secrecy and then the priest exhorts them to remember the sacred green snake and to hate the whites. Prayer is offered to the divine serpent that is supposed to be present in a box placed near the fire. Then follows the sacrifice of a cock which the papaloi kills by biting off its head. With a great deal of drumming and incantation the blood is smeared over the faces of the worshipers and drunk by the officiating priest. A goat may be sacrificed with similar ceremonies. After the goat there might be a human sacrifice, as was reported by a French priest. He said that it was the wish of some of the devotees that a "goat without horns," that is, a child be sacrificed. This was done, and the flesh, raw or partly cooked, was eaten by the members of the cult.

The incessant booming of the drum, the sight and taste of blood, and the great amount of rum drunk cause a religious form of hysteria to sweep over the audience. At the close of the sacrificial ceremony the worshipers begin a dance called the "loiloichi," or stomach dance, which is well known in West Africa. The dance gets wilder and wilder and more degraded until it ends in an orgy of the worst description which lasts until daylight.

The French minister to Hayti in 1860 wrote an account of a woman's having been put to sleep by a narcotic drug and buried. At night she was exhumed still breathing. She was then killed and her brains, heart and lungs removed, presumably for the celebration of some Voodoo mystery. In the investigation that followed a mamaloi was arrested who confessed and offered to assemble the authors of the murder by beating her drum in a particular fashion. This offer was not accepted on account of the number of important personages known to be involved. This fact serves to show the importance attached to the drums and the wisdom of the present day authorities in removing them.

B. W. M.

THE AMAZON EXPEDITION

THE TAPAJOS

OUR next long journey was made up the Tapajos River, to the state of Matto Grosso, where the São Manoel and the Jurueña unite to form the Tapajos. Here we visited the last remnant of the Apiacas, once a large and ferocious tribe, speaking a dialect of the Tupi language. At the time of the Brazilian war with Paraguay, 1866-71, the state of Matto Grosso was cut off from trade to the southward, and for a few years the people were obliged to get their supplies from the Amazon valley by way of the Tapajos and the Jurueña rivers. At that time the Apiacas were numerous and were used as canoemen on these rapid rivers, where the white men and their negro companions would have been helpless without their assistance. From their physical appearance at present, it would seem that considerable mingling of blood took place at that time. They resent the suggestion, but the short curly hair of some individuals and other physical features so foreign in appearance can best be accounted for in that way. From their own account they were formerly nude cannibals, eating the bodies of enemies killed in warfare. Today, while the flesh eating trait has disappeared, they wear clothing only when they go among the rubber gatherers. Their chief is the captain of a large motor boat, which carries rubber down the 400 or 500 miles of rapids to the large steam launches in the quiet water below. He has that quiet self command common in the Indian and so lacking in the Brazilian laborer. This self command is very necessary for navigating the dangerous rapids. To the Indian there are no dangers, because he steers his bark easily and safely without accident. He never loses his self possession, is never nervous, and always does the right thing at the right time. His canoe shoots by within an inch of the rock which might have dashed it to pieces, but he knew the inch was all the room he needed and had his canoe and men in such perfect control that there was no danger. At such times the slightest nervousness on the part of any of the crew would prove fatal, but no one is ever nervous. The traveler with such companions soon develops a confidence which allows him to enjoy the thrills of the passage.

What I have said of this fellow applies equally well to all the canoe Indians. Their absolute absence of "nerves," and their complete self possession under all circumstances must be admired by every one. This self mastery which enables them to prevent showing surprise, delight or appreciation, has often been called stupidity by the superficial observer. Two of the boys with us for five months on our journey through the new territory of North Brazil and down the Corentyne had never before left their homes in the savannahs, and had never worn clothing.

At the end of our long canoe journey we put them aboard a steam launch; then a motor boat; then in an automobile for a rapid night ride; then aboard a train, and upon arriving in the city of Georgetown they were dressed like white men; but through all these experiences no one could tell from their outward expression that everything was not as customary to them as it was to us. They did not look unnatural in clothes, nor appear uncomfortable or awkward. When we were with Indians who had never before seen white men they showed no nervousness, with but two exceptions. Even when we fired a twelve gage

shot gun, expecting to see them jump, they never twitched a muscle—and they had never heard the report of a gun before. I am aware that persons of a different temperament will think such self mastery an impossibility and attribute the facts to a low state of nervous susceptibility.

The Tapajos is the most beautiful of the Amazon tributaries. A short distance above its mouth it broadens into a bay so large that one is able to get a natural horizon for astronomical observations. The water is perfectly clear and its great depth gives it the color of the sea. For more than a hundred miles of its lower course to the

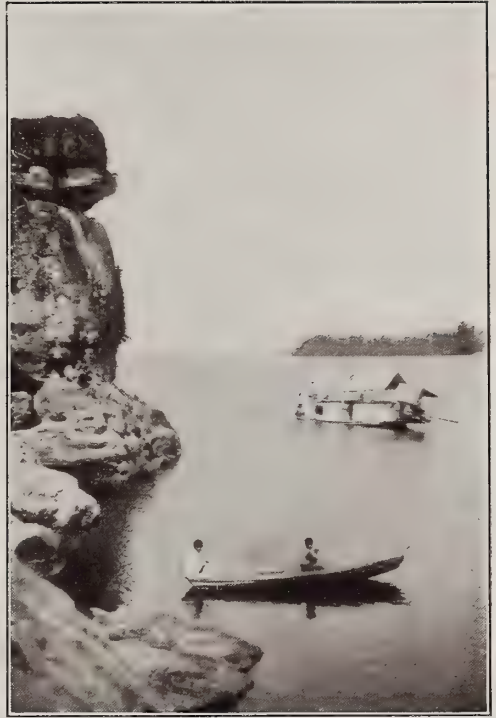


FIG. 46.—Our canoe on the Tapajos with five tons of rubber aboard.

first rapids it is bordered by a high forested plateau. There are mountains every now and then, rising to a height of several hundred feet. The upper river, for a distance of five or six hundred miles, flows between steep mountains, in a series of rapids, with short stretches of quiet water between. The most difficult parts of the river to navigate in the dry season are the shallow places; the river spreads out to a width of three miles and flows over ledges of rock, with no deep channels. The most rapid places are not so dangerous when one is acquainted with the river, because the water is very deep. Although it runs at the rate of seven or eight miles an hour, the channel between the large rocks is practically straight and ends in quieter water.

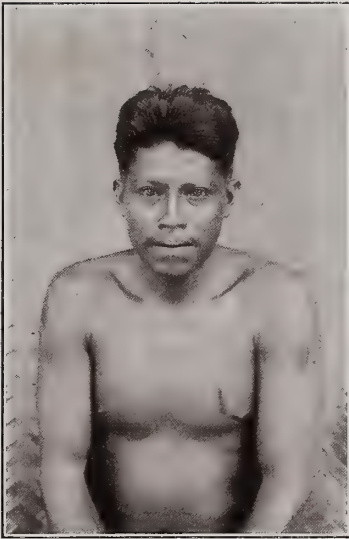


FIG. 47.—Apiaca Chief.

The best rubber from the whole of the Amazon basin comes from this region. It must be transported down through the rapids in large canoes, carrying five or six tons each. Some of these canoes have motors attached at the stern. These are of great assistance in quiet water, but it is necessary to carry a crew of men because the motors are often broken and the canoes caught among the rocks in the rapids. Our canoe was on the rocks many times. Twice we were forced to run ashore, unload, and repair the canoe. When a canoe hits a rock in the rapids, there is great danger of its breaking, not

only because of its weight and the force of the current, but also because of the necessity of running the motor, or paddles, at full speed. This must be done in order to guide the canoe among the rocks. A drifting canoe cannot be guided. The journey to Matto Grosso, which requires from four to six weeks in a loaded canoe with paddles, can be made in twelve days by the aid of a motor.

MUNDURUCUS

The banks of the Tapajos were formerly occupied by the notorious "head hunters" or Mundurucu Indians, but since the coming of the rubber gatherers, the Indians have, for the most part, retired to the highlands about the heads of the small streams to the eastward. They occupy about half the region between the Tapajos

and Xingu rivers north of the Saô Manoel and south of the Itavira. This interior region was supposed to be a great grassy plain extending from near the Amazon to the great *campo geral* of Central Brazil. One is told in Santarem that he can ride on horseback from there south to Cuyaba, the capital of Matto Grosso, and that a railroad could be built with little difficulty to connect these two towns, but no one has ever been through the country. Ten miles from Santarem the dense forest begins and continues to Itavira where it gives place to a semidesert area which continues at least



FIG. 48.—High land between the Tapajos and the Xingu.

to eight degrees south latitude. This latter area west of the divide is occupied by the Mundurucus. No one has been across to the Xingu River and nothing is known of the eastern area. We had hoped to go, but the Indians have never crossed the divide and they say that no one lives to the eastward. They hunt to the mountain tops, but never go beyond. As the country was very rough and mountainous, and there were no trails leading to other tribes, we returned to the Tapajos. We went to the last village which was farther than whites had gone before. The land is semidesert because of poor soil not because of lack of rainfall. The Indians

clear fields on the sides of the forested mountains and near the streams, but live in the open a long way from their water supply. Some grass grows in the lowlands and a few cattle might find pasturage. Along the Tapajos lower down there are a number of grass covered hilltops, but not of great extent. We found tracks in the sand made by the emu, the South American ostrich. The Indians see it occasionally. This is the farthest north the emu has been observed and may prove that there is open country all the way to the *campo geral*. Forests grow along the larger streams but not on



FIG. 49.—Mundurucu village, Kapikpi, showing men's door and men's house.

the high land. A railroad would be difficult and expensive to build and would find little along the way to support it.

The Indians live in large communal houses with several families together. Each house has two doors, one for the men and one for the women on opposite sides of the house. In front of the men's door, at a short distance, is the visitor's house, or men's house, where the men do all their work and where the unmarried men sleep. Visiting women are taken into the large house. Each family has a section of the house for its own use, including a fireplace. There is a head man for each house, and a chief over the whole tribe, which now numbers 500 or 600.

Each house has a medicine man, and there is also a chief medicine man, who ranks next to the chief of the tribe. According to the Indian belief, diseases are caused by an evil genius, "bokaid-pot," in the village. The medicine man knows who this person is, and if many deaths occur or there is much sickness, he tells the chief. Thereupon the chief has the man killed. While we were there a boy about fifteen years of age was killed by two men of his own village (August 7, 1915) by order of the chief and upon the recommendation of a medicine man. He was strangled by means of a cord pulled



FIG. 50.—Mundurucu Hunters.

tightly around his neck. The next morning the body was cremated after the chief had gone down to see it. All other persons, when they die or are killed by accident, are buried. They kill about one person a year in this manner. Our informant had helped to kill a man the year before. The man accused knows he is to be killed and offers little resistance. The chief appoints two men to do the deed at the first opportunity. They may select their time but cannot escape the duty. In the recent case the boy knew that he was blamed for the continued sickness at his village and was expecting to be killed, but he did not know who had been appointed by the

chief to do it. The two men got their orders on August 4th, but a favorable opportunity did not present itself until the seventh, when they found the boy at the river side eating turtles' eggs. They asked him for some eggs, which he gave them. After they had eaten them one of the men asked him for more and when he turned to get them the man seized him from behind, threw him on the ground and held him until his companion brought a cord with which they strangled him. Then they went to the village and told the chief. The medicine men know who these "bokaidpots" are even before anyone



FIG. 51.—Running the Coataquara Rapids, Tapajos River.

is sick, but do not tell who they are. One of them told us there were two in his village, but said he would not tell who they were unless much sickness occurred and many deaths. He does not tell the person himself, but the other people, and they shun the individual and will have nothing to do with him. Thus he knows his doom.

ORIGIN OF THE PEOPLE

In the beginning, the Creator, Karusakaibũ, who then lived on the earth, made the animals, plants and mountains, but did not make the first men. He had a son who never had a mother. He

also had a companion, *Dajiru*, who assisted him and looked after the son. *Dajiru* offended his superior, so he ran away and hid in a hole down in the depths of the earth. After some time, *Karusa-kaibū* found the hole, blew into it and stamped his foot on the ground. *Dajiru* came out with the rush of air. He told *Karusa-kaibū* that there were many people down in the earth. So they made a rope of wild cotton and dropped the end down into the hole. The people at once began to climb up the rope, but when half were up, the rope broke and left the others below where they continue to live. The sun passes through their country from west to east, and gives them day when we have night. The moon also goes through their country, while we have dark nights.

HUMAN SACRIFICE

The people had no foods except wild fruits. The Creator told them to make a field and burn it clean. When it was ready, he took an old woman and buried her alive in the middle of the field. In a short time peppers grew above her body, and all kinds of food plants sprang up in the different parts of the field. Now they make no sacrifices in the new fields nor at planting time.

DESTRUCTION OF THE PEOPLE

For some unknown reason, the people were all destroyed, not by a flood, as among the *Wapisiana*, but by fire, which came down from the sun and burnt up everything. Even the water evaporated. (Their traditional home was in this semidesert region.) After five days, the Creator, who had previously gone up above, sent a vulture from the sky to see if the earth was cold, but he found the burnt bodies of men and remained to eat them. The Creator after waiting four days sent a blackbird but he found the charred buds of the trees, and did not return. After another four days, the Creator sent down the dove, who carried back some earth between his toes and thus the Creator knew that the fire was out. Then the Creator came down and made men and animals of white clay, the kind which is used in making pottery.

ANIMAL STORIES

The Indians have many animal stories, some of which are similar in the main idea to our own. The one that pleases them

most is the following: A man crossing a field saw a tapir standing with one foot on a toad. The toad's eyes were bulging out from the weight of the tapir. The man said, "What are you doing there, Mr. Toad? Those are fine looking eyes you have." The toad was angry and said, "They are my eyes, not yours; go along about your own business." The tapir finally stepped off, but a hawk, flying over, saw the toad and gathered him up. The hawk then happened to fly over the man, who, hearing the noise of his wings, looked up, saw the toad in the hawk's claws and called, "Hello, toad, where are you going now?" The toad replied, "I am not going anywhere, I am being taken." "When are you coming back?" asked the man. The toad replied, "I may come back some time, but I don't know when I'll get there."

THE FOX AND THE VULTURE

One day a fox found a vulture feeding on some decaying flesh and said to him, "That smells so bad it cannot be fit to eat; I will make you some good food." So he went home and made a mingau, a thick soup of cooked ripe bananas, and took it to the top of a rock and called the vulture to dine with him. He poured the soup out on the rock and asked the vulture to eat. The vulture began to pick but could get nothing, while the fox licked it up eagerly. "Why don't you eat?" said the fox. The vulture said, "You lick it all up with your tongue, while I can only batter my bill against the rock. I will get even with you some time for this." At another time the vulture met the fox and said to him, "Come up into the sky with me and see around all over the country." The fox said, "I cannot; I have no wings, I cannot fly." "Well," said the vulture, "I will fix you up so you can go, but we shall have to start very early in the morning." "All right, I will go," said the fox. The vulture went away and got some wax from a tree. In the morning he smeared it all over the fox while it was warm and soft. He then stuck feathers into the wax until the fox was so light that he floated away to the sky with the vulture. He enjoyed it greatly and went up very high so that he could see more of the savannah. After a while the sun came up, the wax melted, the feathers came out and the fox fell to the earth, where he was crushed to death on the rocks.

THE TURTLE AND THE DEER

A jaguar saw a turtle and tried to catch him. As the turtle ran into a hole among some roots the jaguar caught him by the hind leg. The turtle laughed and said, "You caught a root of the tree." The jaguar let go and then caught a root, while the turtle pulled his legs into the hole. The jaguar waited but the turtle would not come out. After a while the jaguar was so weak he could not go away and finally the turtle came out and found him dead. He made a barbecue and while he was roasting him a deer came along and asked him how he caught the jaguar. He said, "By running after him." The deer didn't believe it and said, "Can you catch me?" "Yes," said the turtle, and started for him. The deer ran for a long time, thinking the turtle was after him, and when nearly exhausted he called, "Turtle, are you near?" Another turtle who happened to be there said, "Yes, I am." Whereupon the deer fell down dead near the turtle.

GAMES AND DANCES

They have many games and mimetic dances which take place on moonlight nights. At the full moon in the month of May they have the "feast of the pigs." The peccaries are born in April and when a month old are regarded as great delicacies. The day before the feast and dance the men go hunting for the first time since the pigs were born. The women make the drink in time so that it may be ripe for the occasion. Visitors often come from other villages to take part in the feast. After the meal is over, which consists largely of roast pig and farinha, they all take part in the dances. The first one is the jaguar following the herd of peccaries. Two men lead blowing trumpets alternately, keeping time to the march. Behind them come the group of people scattered like a herd of peccaries feeding. The children run about among the older ones like pigs in the herd. They all make the characteristic sounds of the animals when feeding. Bringing up the rear is the old boar, who continually champs his teeth and rushes about to prevent the jaguar from gathering up any chance stragglers. The jaguar skulks behind catching a pig whenever opportunity offers. He goes about on three legs, holding the other out as a tail. He and the boar have frequent encounters. They are often rival athletes and give a good exhibition of wrestling.

Another is the "pig trap." The dogs chase the ring-necked peccaries into holes in the ground. Then the hunters make a trap by driving a series of cross stakes so that the peccary must run between them. The hunters shoot him as he goes or kill him with a club at the end of the line. The players, men and women, line up with legs wide apart behind the two musicians who are supposed to stand nearest the hole where the peccaries are confined. Then the ones taking the part of peccaries rush out, crawl between the lines of legs and are killed with a club at the end. They have similar dances for other animals and all are so well performed that the stranger can understand them without an interpreter.

They have several of our children's games in which they catch hands and crack the whip, run the figure eight, wind the line around two persons who hold fast at one end, start at one end of the line and turn it wrong side out by passing under the arms of the next pair, then catch ends and turn half the line heels over head backwards, etc. All take part and have great fun. When all is over, their perspiring naked bodies are covered with dust and they rush to the river for a bath.

WARFARE

Some of the women accompany the men when they go to war and carry their packs, cook their food, and care for the wounded, but do not fight. No declaration of war is made, because they are always in a state of war with certain tribes. Their method is to make a surprise attack at daybreak. They take no men prisoners, but kill them, cut off their heads, carry them home and preserve them as trophies. The teeth are taken out and suspended from a cotton belt, which they wear with great pride. Captured women may be taken as wives or servants, while children taken are made members of the tribe. A chief always fights with a chief. Some years ago a Mundurucu chief killed a Parintintin chief, took his head and captured his small son, whom he took home and adopted into the tribe as his own son. When the chief died this boy became the chief and carried on the warfare against his people. The Mundurucus and Parintintins are traditional enemies and from time immemorial have made war upon each other. The last encounter took place about twenty years ago, when a hundred Mundurucus made a campaign in which they burned a village, killed a chief and

captured his son. They brought back four heads. Some of their own men were killed and nearly half died from hunger and sickness on the way home. The four heads were preserved and the teeth made into belts as is their custom. We secured these four belts for the Museum. They are particularly valuable because there are no more among them and they will not make any more. The two enemy tribes have been pushed far apart by Brazilian rubber gatherers.

The custom of preserving the head as a trophy is found among other tribes in the Amazon valley. The Jiveros on the Pastassa River in Peru cut off the head of the enemy, remove all the bones by cutting through the skin from the crown of the head to the neck and shrink the fleshy part to the size of a man's fist. The form of the face is preserved as much as possible. It requires some skill to treat the head. Boys are taught the process by using sloth's heads. The idea in thus preserving the head appears to be the same here as among the Mundurucus. It is a great honor to have taken the head of one of the national enemy. The successful warrior preserves the head in order that he may have it present at a great feast which he will give later when he can make provision for it. After the feast is over the head is of no great importance, and may be disposed of to the trader. The Huitotes on the Putumayo River cut off the head and eat it after it has been boiled. While the chief, medicine man and a few old men eat the head, the younger men take part in a war dance outside. The skull is kept and sometimes set up on a pole in front of the great house. The Andokes on the same river cut off the forearm, eat the flesh and use the bones for flutes. In all these cases, one of the main ideas is to terrorize the enemy.

In former times among the Mundurucus warfare occupied a very important place. The war chiefs were more influential than the civil chiefs. They formed the first class and the civil chiefs the second class. The sons and daughters of these chiefs intermarry and the inheritance is in the male line. If a woman of the first class should marry a man of the second class, their children would be second class. Today most of the people belong to one class or the other. A daughter may be given in marriage at six or eight years of age, but she remains with her parents until after puberty. She may be given to a man of fifty, she has no voice in the matter, but she always remains faithful.

THE UNIVERSE

Their cosmology is simple and interesting. They start with a world readymade and very much as it is today with the exception of some mountains which were made to protect the people. The earth has an end, but no one has ever gone there. The sky also has an end, but no one has ever seen it. The earth and sky remain stationary while the sun and moon move. The creator transformed a young man with red eyes and long white hair into the sun and sent him up above. A young virgin with very white skin was transformed into the moon. The milky way is a man suspended in his hammock. The mother of the rain makes it thunder by rolling her pestle in the mortar. Her husband makes the rain. One man flashes the lightning after it has been prepared by another. The constellations are animals and men out in a great savannah. The eclipse of the sun is due to a great fire that sweeps over its surface. One time a great medicine man called all the people together and told them to watch while he ascended to the sun and put out the fire. They were all watching, but did not see him ascend. He was gone a long time. He found the people who made the fire, killed them and extinguished the fire. No one saw him descend, although they had been watching all the time since he disappeared. He suddenly landed on his feet in their midst. He told them that he had put out the fire, but they would see the smoke until the next day. Since then the medicine man sends his *yakpu* to clear the sun and it falls as a ball of fire. When it is cool he gets it and guards it until another eclipse. The *yakpu* is, no doubt, a piece of meteoric iron. We were not allowed to see it.

Three years ago a Catholic mission was established at one of the Mundurucu villages on the Cururu River. One Father and three Sisters spent six weeks in canoes from the end of navigation on the Purus to reach the place where they founded the mission. They now have twenty-six children under their care, about half of whom are Indians. The others belong to the rubber gatherers on the Tapajos. It is no discredit to the whites to say that the Indian children are doing the best work in the school. The Indians are stronger and naturally do better industrial work in doors and out. They lead also in literary work. A little girl about nine years of age, who three years before had never seen a white man, was leading the responsive Bible reading in Portuguese. These children are the interpreters for their parents and the missionaries. It is very impor-

tant to teach them the language, because the whites will not learn Mundurucu. This school is doing good work and with proper support ought to be of great value to the Indians.

This tribe is no doubt the largest left in northern Brazil. They are honest, upright, good laborers and with careful treatment will become of inestimable value to this region, where workmen are scarce and the conditions of life are difficult for the foreigner. They are just beginning to work rubber and are doing remarkably well at adapting themselves to the regular daily labor required for that occupation. Their wants are increasing from their association with the whites. Their food supply is being interfered with by the rubber gatherers, who also depend largely upon hunting and fishing for their food. It is just at this time that the Indians need guidance to meet the new conditions and protection from the unprincipled trader. We have recommended among other things a law to protect them from the credit system which gives the trader an opportunity of robbing them. They are accustomed to equal exchanges and cannot keep accounts. We have suggested also that the state give them some cattle and stock their lakes and quiet rivers with piraricu, a large Amazon fish which does not pass the rapids of the Tapajos.

THE PAIKIPIRANGA

While doing some archaeological work along the Maraca River, a northern tributary of the lower Amazon, we heard stories of a strange tribe of Indians who had recently come down to the first rubber gatherers' place on the upper river. No one knew their name or anything of their language. We took the first opportunity to visit them. After traveling as far as possible by launch and canoe, we went on foot seven days through the downpours of the rainy season.

When they came to the rubber camp they gave the whites to understand that they were fleeing from some dreadful disease which had carried off all the rest of their tribe, which had been a very large one. The rubber men said some of the Indians were suffering from catarrh when they arrived and they said it was the same disease which had taken so many of their people. There were nine in the party, the chief, a man about thirty, six women from fifteen to thirty and two boys about three and ten. One of the women has since died, but the others are now in perfect health, even if not contented and happy. On January 11, 1916, they were all taken down river

to Central to meet a Padre from Santarem, who baptized them and married two of the women to two Brazilian rubber men. Neither the foolish priest nor any Brazilian knew a word of the Indian language. At the time the Indians must have wondered what it was all about, as they had not yet learned Portuguese or Latin, but they had a rude awakening when the women were carried off by their new-found husbands. One woman was allowed to take her three-year-old son with her. The chief, his wife and a relative are remaining together and living with a rubber gatherer, where they are making themselves useful and agreeable.

We were unable to get any information about their culture other than what we could observe. We got a short vocabulary, but sufficient to identify their language as a dialect of Tupi. We tried to use one of the happy husbands in getting terms of relationship, but he failed to make his wife understand the simple terms, father, mother, son, wife, husband, brother, sister, etc. Language is unnecessary in the religion, love and servitude of the Amazon. In physical appearance, they are well developed, but short of stature. The man has considerable hair on his face and body. The bridge of the nose is very low, which gives them the appearance of being very wide between the eyes. The men wear the loin cloth and the women short skirts woven of native cotton. Their hammocks are also made of cotton.

This was our first journey through a real castaña or Brazil nut region. This tree grows only on the fertile high land, where we counted as many as a dozen, from two and a half to six feet in diameter and seventy-five feet high without a limb, on an acre of ground. A tree yields from one to two barrels of hulled nuts each year. About a million bushels are shipped annually from Para, half to America and half to the different countries of Europe. They are used entirely to eat and not for making oil as generally supposed; they are too expensive for that purpose, as they retail from twenty to thirty cents a pound. The present output could be increased ten fold with better facilities for transportation. The shell, which contains about fifteen of the nuts, is so hard that it does not break when it falls and the animals are unable to eat the nuts. The sabacaia nut is more valuable, but it has a cap which falls off when ripe and allows the nuts to scatter on the ground, where the animals eat them. It is so dangerous, when the Brazil nuts are falling, that men will not travel through the forest at that time.

DIFFICULTIES OF TRAVEL

Much has been said about the annoyances, difficulties and dangers of Amazon jungle travel. For the most part there has been exaggeration, but at best there are many drawbacks to the pleasure of the traveler and to the development of the country.

The greatest danger to the foreigner is the climate. The depressing effect of heat and moisture. The stranger is always advised to keep out of the sun, to do no manual labor and to take stimulants regularly. We kept in perfect health by neglecting all this advice. We paddled our canoes, carried our packs and dug in the mounds every day with our own hand and felt just as well as when doing the same kind of things in cooler climates. With regular exercise, regular bathing, and regular sleeping a temperate man can keep well in the tropics for a short period. Malaria is the one disease he can scarcely hope to escape, but by taking small doses of quinine he can prevent the fever from rising. We soon learned that six grains twice a week was sufficient to keep it down.

From the Indians we had little to fear, yet we took the precaution to carry with us the chief from the last village to the next. When we arrived at the clearing that always surrounds a village, we stopped and allowed him to go in alone and announce our coming. This prevented their running away and secured a favorable reception. We were always treated as visiting chiefs among the tribes who had not before seen white men and we tried to act the part with our best ability. At least we avoided giving offence.

There is practically no danger from the puma, jaguar, alligator or large serpents. They seldom if ever attack man unprovoked in this region. The only real danger is from the smaller poisonous reptiles—the rattler, jararaca, and bush master. When on foot we wore leggins and when traveling through the forests followed an Indian. Not that his eyes were any better than ours, but because he was more accustomed to seeing them and knew their haunts. In all our experience we saw many snakes, but had only one man struck. We gave him white man's treatment at once and later his chief gave him their treatment, which consisted in singing songs, blowing on all his joints and spitting on the wound. Unfortunately we had to leave him on the trail and never were able to learn whether or not he recovered.

Mr. Roosevelt has called attention to the danger from the piranha, the man-eating fish which is common in many of the rivers.

It is undoubtedly the most ferocious fish in the world and will attack anything. Fortunately for the canoemen, he is not found in rapids or very shallow water. He always makes his presence known; hence there is little danger from him. The annoyances one notices most at the time, but soon forgets them. Of these it is difficult to make a choice. The mosquitoes, flies, ants, and small crawlers too numerous to mention, do make life rather miserable at times. They are never all present at any one time nor any of them at all times. Many places we wore gloves and headnets during the day and slept in nets at night. When we were doing archaeological work in the forests, the mosquitoes were so bad in daytime that we had to wear gloves and nets and have a boy with a brush to keep them off our bodies. The sharp sting from the bite of the mosquito is soon over and nothing comes of it at once, but the bite of the small fly leaves a blood clot which continues to itch for days. If one scratches he is sure to have blood poison—he must simply let it hurt. The worst of the lot of nuisances are the small crawlers, because one cannot protect himself from them. After a time one remembers only the pleasant days and nights of the dry season in the open country where for four months at a time he can travel and sleep out of doors without protection of any kind.

If one adapts himself to the conditions, customs and food of the country he will soon be able to travel and work in comparative comfort. However, he will have great difficulty in applying himself with his accustomed zeal. It goes without saying that one should not remain a long time in such an environment. Our stay of three years was too long. One not only gets out of touch with the world, but he also gets out of harmony with it.

To summarize, our expedition accomplished much more than the making of a large collection for the Museum exhibits. From our extended travel we came into touch with many things of interest and secured much information which will be of service to others in a material way. We brought back collections from some thirty tribes which will be valuable in comparative ethnological study. The varied archaeological material will be of service in determining the relationship between the ancient culture and that of the present peoples. Besides these things of material culture, we secured a vast amount of somatological, linguistic and ethnological data which will be invaluable in the study of the complicated questions of migrations and mingled cultures. An article relating to the archaeological work will be found in a future number of the JOURNAL.

EQUIPMENT

A word about equipment may be of interest to other travelers in this region. The photographic outfit is of most importance on any kind of expedition. For nearby work, we used a 5 x 7 Century camera fitted with a Voightlaender lens and carried kits for 12 x 18 mm. plates for single portraits and small objects. Our most used and most convenient outfit was an Eastman $4\frac{1}{4}$ x $6\frac{1}{2}$ kodak fitted with a No. III Goerz lens and a volute shutter. We carried also an extra plate attachment and case. Along the rivers we used plates, but when on foot traveling across country where plates could not well be carried on account of the weight, we used roll films. After expensive experimenting we found that Ensign films, Wratten & Wainwright and Hammer plates stood the heat and moisture best. Some of our very best photographs were taken with films which had been a year in the tropics. Hammer plates three years old proved better than some other makes which were only three months from the factory. It was necessary to carry chemicals and to develop our negatives at once. The Agfa fixing bath put up in glass tubes is convenient and satisfactory. Fixing baths put up in tins will not keep in the tropics. When we returned to our base we made prints of all important negatives and sent them home at once. After they had arrived safely we sent the negatives. Ansco paper three years old proved better than some other papers fresh from the factory. It is a shame that workers must thus experiment in the field and lose invaluable photographs simply because manufacturers and dealers will not take the trouble to find out what is suitable for tropical use and are willing to recommend anything to make a sale. Such dealers should be widely advertised. It is difficult to refrain from using names in this connection, but instead of doing so we shall take more pleasure in recommending the Hammer plate, the Ensign film and the Ansco paper for continued work in the Amazon country.

For guns we used the Remington 30-30 rifles and the 12 gauge repeating shotgun. These were most satisfactory to us and they so recommended themselves to other people that we had to supply them with some fourteen guns. In spite of their fine mechanism they were easy to clean and to keep in perfect condition even when traveling on the trail in the rainy season.

In our geographical work we used the Hicks sextant, aneroid and artificial horizon. We did not need the wind shield because

we worked with the stars only and there is very little wind at night. The sun was too high for meridian observations. We carried a Waltham pocket chronometer and Elgin watches for time and a Brunton compass for traverse work.

Baggage is very difficult to arrange for all kinds of travel. We used some Silver airtight metal trunks which were always safe in the rains on the trails and on the bottoms of leaky canoes. The lightest and for all purposes probably the best are the heavy duffle bags with a native made caucho bag inside. In canoes among the rapids we carried our notes, cameras and photographic materials in such bags, together with small life preservers. These would float and were not fastened to the canoes. A few most necessary heavy things were always made fast. The Abercrombie oil silk fly is indispensable. One weighing seven pounds will protect six men and their packs and will last a year or more. My personal outfit was made up of a Wapisiana Indian hammock, a mosquito net and a five pound army blanket which I used every night when sleeping out of doors. The best clothing is the two piece suit of the country, a Stetson hat and strong boots. I know of nothing so absolutely uncomfortable as to have the rain soaking through one's hat and running down about his neck and ears. My Stetson after nearly three years wear needs only new bands for another year of tropical rains. Waterproof boots are not fit for tropical wear. When one is walking in the rain it is impossible to keep the water from running into his boots and it is likewise impossible for it to get out. His feet steam the first day, he is lame the second and laid up by the third. Porous boots with strong soles are best and coolest.

When traveling and working in difficult places it is a much better policy to carry as few things as practicable, and to take exceptional care of these, than it is to burden oneself with duplicates expecting to lose something. Acting on this policy during our six years in tropical work, we never lost a man, a canoe, a notebook, a camera or instrument of any kind, and not even a drop of mercury. Yes, we were fortunate; the painstaking usually are.

W. C. F.

THE EXPLOITS OF HERAKLES, ON GREEK VASES IN THE UNIVERSITY MUSEUM

THE recent acquisition of an Attic black-figured amphora by the Museum, with a painting of Herakles fighting the Amazons, has made it seem expedient to collect together the vases in the Museum that portray exploits of this popular hero, and to give illustrations of all previously unpublished specimens.

A NEWLY ACQUIRED AMPHORA

The amphora recently received was formerly in the Borelli Bey Collection, which was dispersed in Paris in 1913. In the Sale Catalogue, it is numbered 221, and a photograph of it is published. The writer of the catalogue, in describing it, calls it a work of the painter Exekias; this, though possible, is not likely.

On the obverse side (Fig. 52) we see Herakles, sword in hand, attacking two Amazons. He wears his lion's skin over a short chiton. One of the Amazons, who is fully armed, wearing a helmet and breastplate, and a sword at her side, and carrying a shield, with the device of a tripod, and a spear, has been stopped in her flight by the hero, who has overtaken her, and forced her on one knee. Her sex is betrayed by the treatment of the flesh parts in white overcolor, a common method in the black figured technique for portraying women. From the right, the second Amazon, similarly armed, comes to her comrade's rescue.

The reverse (Fig. 53) shows two Greeks attacking a fallen Amazon. The Amazon is in every respect identical to the one attacked by Herakles, even including the device on her shield. The two Greeks are fully armed; but the shields that they carry are of a different shape from that of the Amazon, being of the so-called "Boeotian" type. They also wear greaves, which are not worn by the Amazons on this vase.

A singular peculiarity is to be noticed in the helmet worn by the Greek on the left of this picture. His helmet is drawn apparently with two crests. Whether this is mere carelessness on the part of the vase painter, or whether, as some maintain, this is a crude attempt

to draw the crest in full face, instead of in profile, is uncertain. Other examples are known, three of which have come to my notice.

On a black figured panel amphora, in the Louvre, No. F53, signed by Exekias, we see Herakles, in his combat with the triple



FIG. 52.—A newly acquired black-figured amphora.

A. Herakles fighting two Amazons.

bodied Geryon. One of the heads of Geryon is equipped with a helmet showing such a crest. This amphora is published among other places, by Gerhard, "*Auserlesene Vasenbilder*," pl. 107.

Another black figured panel amphora, seen by Gerhard in the trade in Rome, and now lost, had a battle scene, in which one of the

combatants wore such a helmet. This vase is published in "Auserlesene Vasenbilder," pl. 208.

A red figured amphora in the Louvre, No. G1, signed by



FIG. 53.—A newly acquired black-figured amphora.

B. Two Greeks attacking an Amazon.

Andokides, shows a combat, in which one of the warriors wears such a helmet. Published in Furtwängler-Reichhold, "Griechische Vasenmalerei," pl. 111.

HERAKLES AND THE AMAZONS

The battle with the Amazons is the ninth of the labors of Herakles for his uncle Eurystheus, King of Mycenae. It was to

bring back to Eurystheus the girdle of Hippolyta, the queen of the country that these warrior women inhabited. In order to accomplish this feat, Herakles had to fight with them.

Next to the new amphora, the best example of this exploit in the Museum is painted on a black figured amphora, with a cover, found at Corneto in Etruria. This is one of the finest vases in the



FIG. 54.—Black-figured amphora from Corneto.

A. Herakles fighting two Amazons.

Museum's possession: the preservation is very good, and the drawing is of the best period in the black figured technique, about 525 B. C., a little later probably than the newly acquired amphora. On the obverse (Fig. 54), Herakles attacks two Amazons. In this connection it should be said that, while in these two amphoræ there are only two Amazons with Herakles, three is the more common number on Greek vases in general. Herakles has dragged one of the Amazons

to the ground, and grasps the crest of her helmet in his left hand, while he has his sword in his right. The Amazon tries to resist. The hero wears the lion's skin over a short chiton; the Amazon is fully armed in the Greek fashion, and the nude parts of her body (face, arms and legs) are rendered in white.

From the right the second Amazon comes to the defense of her

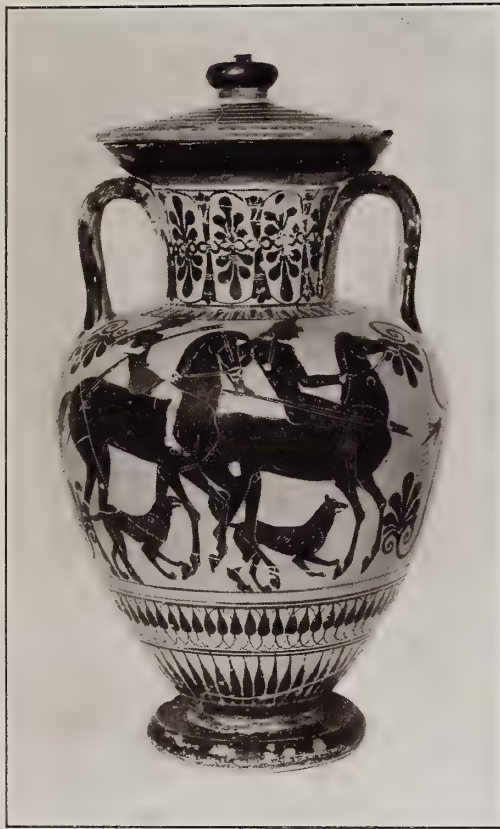


FIG. 55.—Black-figured amphora from Corneto.

B. Two mounted Amazons, with dogs.

comrade. She wears an Oriental costume, composed of a tight fitting, one piece garment, ornamented with spots, reaching from the neck to the ankles, and terminating in tight trousers, in the Persian manner. On her head she wears a Phrygian cap, and her face is rendered in white. A quiver is slung from her shoulders. Her right arm is drawn back, with her spear poised to thrust at Herakles, against whom she strides with great energy, and on her left arm is

a crescent-shaped shield, with a checkered design, perhaps to represent wicker work.

On the reverse (Fig. 55) are two mounted Amazons, riding bare-back, towards the right, with two dogs. One of these Amazons wears Greek armor, the other, the Phrygian costume. Both carry two spears.



FIG. 56.—Fragment of a cup, from Orvieto.
Herakles attacking an Amazon.

There is still another representation of this exploit, on a fragment of a black figured cup, found at Orvieto (Fig. 56). Here, between two eyes (we must undoubtedly supply an eye at the left), Herakles attacks an Amazon with his club.

HERAKLES AND THE CRETAN BULL

This was the seventh of the labors that Herakles did for Eurystheus. The bringing of this famous bull from Crete to Mycenae was a favorite subject among the Greek vase painters, and the Museum possesses a fragment that may possibly show it.



FIG. 57.—Fragment of a cup, from Orvieto.
Herakles and the Cretan bull.

This is a fragment of a small black figured cup, found at Orvieto, and probably part of the same vase as the Amazon fragment described above (Fig. 57). In the sherd we see a nude bearded man running with outstretched arms to the right, attempting to catch an

animal running in the same direction. Unfortunately, only the hind parts of this animal are preserved; but it can be seen from their



FIG. 58.—Black-figured amphora.
A. Herakles and the Nemean lion.



FIG. 59.—Black-figured amphora. Draped figures
and winged Victories.

shape, and from the drawing of the tail, that it is a bull which the man is pursuing. The man is, therefore, trying to grasp the bull by the horns. This is very possibly a representation of Herakles and the Cretan Bull.

HERAKLES AND THE ERYMANTHIAN BOAR

This was the fourth of the famous twelve labors of Herakles. In the Museum are fragments of an Attic black figured amphora,



FIG. 60.—Black-figured krater.
Herakles and the Nemean lion.

showing Herakles bringing the boar to Eurystheus, who in fear has thrown himself into a big pithos, or jar. The onlookers are Athena on the right, and Hermes on the left. These fragments are published in the MUSEUM JOURNAL, Vol. IV, 1913, p. 159, Fig. 137.

THE APOTHEOSIS OF HERAKLES, AND HIS MARRIAGE WITH HEBE

After his death from the poisoned shirt of Nessos, Herakles was made a god, and conducted to Olympus. The usual mode in the black figured technique is to have him ride in a chariot driven by Athena and escorted by the other gods. A black figured hydria in this collection seems to show this subject. Athena is driving a

chariot, and the man with her carries a club, and may well be Herakles, although he is not dressed in the lion's skin. This vase is published in the MUSEUM JOURNAL, Vol. IV, 1913, p. 147, Fig. 127.

When Herakles was made a god, he was married to Hebe, the cup bearer of the gods. This marriage is portrayed on a very beau-



FIG. 61.—Black-figured hydria.

On shoulder: Herakles and the Nemean lion.

Main design: Women at fountain.

tiful late red figured pyxis, or toilet box, recently acquired by the Museum, and published in the MUSEUM JOURNAL, Vol. VII, 1916, p. 270, Fig. 204, and p. 272, Fig. 205.

HERAKLES AND THE NEMEAN LION

This, the first of the labors of Herakles, has been reserved for the last one to be discussed, as it is the most popular of all the

exploits of the hero in the Greek vase paintings. There are two ways in which this exploit is shown. In the earlier method, the lion is represented as rampant, and Herakles is represented as wrestling with him standing; in the other and later type, Herakles bends over the lion, who usually strikes at him with one of his hind paws. There are five vases in the Museum, showing this combat, two in the earlier, three in the later manner. In the earlier type there are



FIG. 62.—Black-figured amphora from Corneto.
A. Herakles and the Nemean Lion.

1. A very crude amphora of the black figured technique, at present not on exhibition (Figs. 58 and 59). On the obverse (Fig. 58), Herakles wrestles with the lion. He is nude, as he always is in these vases. At the left is his nephew and comrade Iolaos, who holds his club; he is also nude. On the right, a male and a female figure are represented, perhaps Athena and Hermes. The reverse (Fig. 59) has a design of draped figures and winged Victories.

2. A black figured krater with column handles, said to have been found in one of the Greek Islands (Fig. 60). Herakles wrestles with the lion in the presence of Iolaos on the left and Athena on the right. On the reverse are four warriors, marching in procession.

The three vases of the later style are

3. A black figured hydria, probably found at Chiusi. On the shoulder is a picture of Herakles and the Nemean Lion, in the presence of Athena and Iolaos (Fig. 61).

4. Black figured panel amphora, found at Orvieto. On one side is Herakles fighting with the lion, in the presence of Athena and Iolaos; on the other a Bacchic scene. This excellent amphora, quite in the style of Exekias, has been published in the MUSEUM JOURNAL, Vol. VI, 1915, pp. 86 and 87, Figs. 65 and 66.

5. I have selected, to conclude this article, a very beautiful black figured amphora from Corneto (Fig. 62). Herakles bends over the lion, who strikes at his face with his left hind paw. Behind the combatants stands Athena, encouraging the hero. This vase belongs in the best period of the black figured technique, and shows great skill in the use of incised line drawing. The reverse has been worn away, but seems to have shown Athena, Hermes and Herakles.

S. B. L.

NOTES

We regret to record the resignation from the Museum Board of Mr. B. Franklin Pepper in order to give his services to the Government. Mr. Pepper, who has gone to Fort Niagara, has been a member of the Museum Board since December, 1905, and has during that time been its Secretary.

Mrs. Charles Brinton Coxe has presented to the Museum a set of Curtis' "North American Indian" in eleven volumes of text and eleven folios of plates. This publication, which deals in succession with all the Indian tribes in America north of Mexico, is a work which is highly esteemed by all students of the Indian as well as by others whose interest is centered in the artistic side of the native American life and its surroundings. The copy which the Museum is now so fortunate as to possess was the property of the late President of the Museum, Mr. Eckley B. Coxe, Jr.

The Library of the Museum has received from Mr. Charles P. Bowditch of Boston a copy of a Quiche-Spanish and Spanish-Quiche dictionary. The original of this work was written by an anonymous Franciscan priest of Guatemala. The manuscript is a copy made, probably, at Zacapula, Guatemala, in 1787 by Fermin Joseph Tirado, who announces the fact that he knows the Quiche language. The copy presented to the Museum is a photographic copy made by the photostat process.

Miss Lydia T. Morris has added a piece of Roman glass to the John Thompson Morris Collection and has also presented eleven pieces of Russian enamel work.

Mr. Samuel P. Hanson has presented to the Museum two hammocks of native workmanship from the west coast of Africa. One of these hammocks was made in 1870 and was exhibited at the Centennial Exhibition.

A Babylonian seal cylinder with engraved design representing the owner being presented to a goddess by an intermediary has been acquired by purchase.

Chinese porcelains, formerly in the Morgan Collection, to the number of sixty-six have been selected and purchased by the Museum.

Mrs. J. William White has presented a collection of American and Indian pottery, together with an Egyptian mummied cat.

The Alaskan collections have been increased by the purchase of a collection from the Tanana River, obtained by Mr. Guy Madara. The Tinneh Indians of that region, who have until recently remained isolated, are now becoming so civilized that genuine specimens of their handiwork are rare.

A collection obtained among the Tlingit Indians of South-eastern Alaska by Mr. Louis Shotridge has been received at the Museum.

Messrs. Probst and Wight of the Africa Inland Mission stationed at Aldai, British East Africa, have sent a third consignment of the ethnological collections which they have been making among the natives of that region on behalf of the Museum.

Four Navajo blankets, one of them of great rarity and beauty of design, have been purchased.

A collection of ancient Mexican jewelry ornaments and amulets of jade and gold has been acquired by purchase. The collection contains also pottery images from Oaxaca and a stone effigy vase.

We record with very deep regret the death of Mrs. Louis Shotridge which took place at Haines, Alaska, at the mouth of the Chilkat River, on June 12. Mrs. Shotridge was the daughter of Scundo, a well-known medicine man of the Wolf party of the Chilkoots. Her mother was of the Thluqwonutdi clan of the Raven party of Chilkoot. From her childhood Mrs. Shotridge was known for her beauty of person and for her quite exceptional intelligence. During the three years that she spent with her husband in Philadelphia she became a well-known figure and a great favorite, especially with the children of the public schools whom she met frequently at the Museum and to whom she talked about the customs of her own

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people. Besides being an accomplished musician and a good storyteller, she had many gifts which gained for her the admiration and friendship of many people in Philadelphia.

A committee of the citizens of Philadelphia and friends of Mrs. Cornelius Stevenson, in recognition of her public service, have presented to the Museum a portrait of Mrs. Stevenson painted by Mr. Leopold Seiffert. The portrait is hung in the library with a tablet bearing the following inscription.

Sara Yorke Stevenson, Sc. D.
Curator of the Egyptian Section 1890 to 1905
Secretary November 1894 to January 1904
and
President January 1904 to February 1905
of the
Free Museum of Science and Art
of the
University of Pennsylvania

The following persons have been elected to membership in the Museum.

FELLOWSHIP MEMBER

Mrs. Edward A. Schmidt

SUSTAINING MEMBERS

William P. Bancroft	George L. Justice
William H. Donner	Horatio G. Lloyd
Mrs. Mary Powers Harris	Frank T. Patterson
Samuel Horner, Jr.	Mrs. W. Brooke Rawle
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C. F. C. Stout
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Clement R. Wainwright
William H. Wanamaker, Jr.
S. D. Warriner
William H. Wetherill
Mrs. J. William White
Richard Norris Williams
Pope Yeatman

FORM OF BEQUEST

I give and bequeath to the trustees of the University of Pennsylvania the sum of.....dollars, in trust for the uses of the University Museum. (Here specify in detail the purposes.)

MEMBERSHIP RULES

There are four classes of membership in the Museum:

Fellows for Life, who contribute.....	\$1,000
Fellowship Members, who pay an annual contribution of.....	\$100
Sustaining Members, who pay an annual contribution of.....	\$25
Annual Members, who pay an annual contribution of.....	\$10

All classes of members are entitled to the following privileges. Admission to the Museum at all reasonable times; an invitation to any regular reception given by the Board of Managers at the Museum; invitations and reserved seats at lectures; the Museum Journal; Copies of all guides and handbooks published by the Museum and free use of the Library. In addition to the privileges to which all classes of members are entitled, Sustaining Members and Fellows receive, upon request, copies of all books published by the Museum.

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VOL. VIII

PHILADELPHIA, SEPTEMBER, 1917

No. 3

A NEW TABLET OF THE CULT OF DEIFIED KINGS IN ANCIENT SUMER

THE tendency to worship extraordinary mortals upon whom senates and municipal governments bestowed the rank of divinity has more or less intensively characterized the history of religion. In Greece and Rome the cults of deified heroes and kings largely supplanted the worship of the older nature and cultural gods. Specialists in the religious beliefs and practices of the classical peoples appear to agree in their explanation of the appearance of this kind of worship in Greece. By the fifth century B. C. the Greeks began to lose faith in the members of the Olympic pantheon. A subtle pantheism, which appealed to that poetic and imaginative race, rapidly replaced the older belief in the anthropomorphic gods, at least among the intellectuals. And after all supremely good and able rulers had ever been their sure benefactors when the gods had failed. Popular worship has never yet been successfully conducted upon a basis of pure philosophy and consequently the worship of immortalized rulers gained ascendancy in Greece instead of pantheism. "Divinity appeared living among them," says Wendland, and this cult acted as a medium between Stoic pantheism and mankind, says Fowler. In a measure these criticisms of two famous scholars are of universal application in human worship. Monotheism deprives man of his gods, his old religious toys and all of divine personality recedes into sublime obscurity. Or if it be a philosophic concept like pantheism, the world spirit, or pure reason which comes to occupy in the mind of man the position of supreme importance, mankind finds himself even more helpless in the construction of an efficient cult. In both of

these events, in Palestine, as in Greece, the situation was solved by the worship of immortalized men, the visible medium between humanity and unseen divinity.

In Rome this deification began with the worship of the dead Cæsar, and only in a later period did they concede the rank of divinity to living men. On the contrary in Greece, Egypt and Western Asia these cults began with the worship of living men, mortals who were officially deified during their human activity. This kind of cult worship was already prevalent in the Oriental provinces of the Roman Empire even with regard to Roman emperors who were not deified in Italy before their decease. The entire institution at Rome was imported from the Greek, Egyptian and Semitic Orient, but only under stress of a philosophic and religiously skeptical situation already described, a situation which finally obtained in Rome centuries after its appearance in Greece.

Students of Greek religion have generally adopted the thesis that these cults were indigenous in Greece and they have been explained as above. At any rate this phase of worship, so important in the evolution of religion, not only thrived in the Orient long before its vogue in Greece, but occupied the position of greatest importance in the worship of the Sumerian people from the twenty-sixth to the twenty-first centuries B. C. Before 3000 B. C. ancient Sumerian city kings claimed to have been begotten by the gods and born of the goddesses. These were of course pure theological dogmas contrived by a state clergy to strengthen the royal prerogatives. Although the rulers of that period were not deified and did not receive adoration and sacrifice as gods, nevertheless their inscriptions show that their subjects believed them to be divinely sent redeemers and the vicars of the gods. They already correspond to the Greek *θεοὶ σωτῆρες*, the divine saviors, who became the objects of the Greek cults. And the members of the first powerful Semitic dynasty founded by Sargon at Agade about 2900 B. C.,¹ also claimed divine prerogatives to rule. The fourth and fifth kings of this Semitic line, Naram-Sin and Shargalisharri were actually deified. As in Rome the deified emperors received the prefix *deus*, or god, so here the names of these kings of the thirtieth century B. C. are prefixed by the sign for god. We might at first infer that this institution is of Semitic origin since historically it first appears in a Semitic dynasty. But this is surely due to the paucity of our material. The cults of divine rulers are so characteristic of Sumerian religious beliefs that we

¹ This date is in dispute. Some place this king as late as 2650 and others as early as 3800.

cannot be in error in attributing the entire system to that source in Babylonia. However no evidence has yet been found that temples were built to these god men, sacrifices instituted and liturgies sung in their worship in that period.

It remained for the Sumerian people of the age of the dynasty of Ur (2475-2358) to develop this phase of religion to an extent almost unparalleled in the subsequent history of mankind. The Nippur Collection of our Museum has already furnished by far the most important tablets which contain liturgies sung in the cults of deified Sumerian kings. In view of the significance which this cult has for the origins of the same institutions in Greece and Rome, and for its striking similarity to much that is fundamental to Christianity and universally true in all human worship, our collection assumes a position of first importance in the history of religion. The founder of the dynasty of Ur, the so-called Ur-Engur, never received divine honors, but his son and successor, the famous Dungi, who ruled 58 years, was elevated to the rank of a god in the early years of his reign. His three successors, Bur-Sin, Gimil-Sin and Ibi-Sin all received canonization upon their accession to the throne, and they continued to receive worship after their deaths. In strange contrast to Roman procedure where the institution began by the canonization of dead heroes, in Sumer worship of dead kings was forbidden unless they had been deified while living. Evidently some kind consecration of the living mortal alone gave the possession of immortality.

Temples were built to these kings everywhere in Sumer, and our collection possesses liturgies sung in their cults at Nippur, a city over which they ruled. Sacrifices of oxen, sheep and rams were made to these god men as to the great gods themselves. We also possess seals of influential Sumerians dedicated to these god kings, Dungi, Bur-Sin and Gimil-Sin, and these seals show the deified emperors seated on thrones receiving adoration precisely as one of the great gods. The month of July was dedicated to the festival of Dungi, exactly as our July and August were named from *deus Julius* and *deus Augustus*.

Now, before mentioning our Sumerian tablets which contain liturgies sung in the worship of these god men, I shall call into brief discussion the ideas which apparently created a situation favorable to this extraordinary period of god man worship. In Sumer it certainly did not arise because the Sumerians and Semites had become skeptical regarding the powers of the great gods. In the liturgies sung in the cults of the divine men, the earth god Enlil, the sun god Babbar, the moon

god Sin, the mother goddess Innini and all the others occupy the same classical positions of unlimited power and enjoy the same unrestrained confidence. The origin of god man worship in Babylonia is connected with a fundamental doctrine of ancient civilization, the belief in a dying god. Tammuz, the youthful son of mother earth, incarnation of earth's productivity, the soul of vegetation, the flowers and flocks, suffered annually the fate of all mortals. He died in the summer heat and sojourned a brief period in hell, returning again, after his mother's pilgrimage, to renew life upon earth. In their kings they probably saw types of this dying god, men who by divine commission of the gods controlled the rains and winds, made the pastures grow and the flocks increase. This connection with nature was certainly attributed to the kings not only in ancient Sumer but to the kings of Babylonia and Assyria down to the Greek period. Mortal man appearing among men as a *θεὸς σωτήρ*, a divine savior, had naturally more affinity with the dying god than with any other deity. There is also little doubt but that prehistoric kings actually posed as the youthful son and beloved of mother earth, the virgin mother goddess, for a dynastic list of prehistoric kings in our collection actually names Tammuz as one of the ancient rulers of Erech. Probability rests with the thesis that the virgin mother goddess and her son and beloved consort who perishes annually arose originally as religious myths. These deities are primitive and older than the idea that royal rulers are patrons of earth's productive powers, and sons of the mother goddess herself. At any rate several of the kings of the Isin dynasty (2358-2133) which succeeded that of Ur, all of whom were likewise deified, appear in one hymn of the Berlin collection identified with Tammuz. The reasons which brought about this remarkable period of god man worship in Sumer are undisputably clear. They identified their savior kings with the dying son of the weeping mother, and believed them the divine redeemers sent to restore a lost paradise.

Assyriologists are fortunate in their study of this phase of religion in that a large number of tablets containing Sumerian hymns and liturgies to these god men have survived. Three long hymns of the cult of Dungi, first of the god men, have been found in the Nippur Library.¹ One of them begins as follows:

¹ One now in the Library of the University of Dublin was obtained from a dealer. This tablet was obviously filched by Arabs from the Expedition of our University. Published in the writer's *Sumerian Liturgical Texts*, pp. 136-140. A liturgical hymn, of which two duplicates have survived, was published by the writer in his *Historical and Religious Texts*, 14-18. Also a hymn to Dungi before he was deified, *ibid.*, 9-13. The second tablet of a liturgy in the cult of Dungi was published by HUGO RADAU in his *Miscellaneous Sumerian Texts* No. 1, Hilprecht Anniversary Volume.

"Lord who makest glad the land of Sumer,
 Who causest devastation to befall the foreign lands,
 Who speakest fearful decrees. ,
 Whom Enlil¹ chose (?) as the everlasting shepherd of the Land.
 Oh divine Dungi, king of Ur art thou.
 Whither he turns his eyes he speaks words of assurance.
 By the command of Ninlil² pious works in the universe he has
 established."

And a later passage of this hymn compares him with the greatest of the gods:

"He is the unopposable, who is unrestrained.
 He that tirelessly eradicates anarchy, art thou.
 On the reed-flute I will set forth these matters.
 The name of the god king transcends all,
 (Like) the name of Enlil whose fixed decree is not transgressed,
 (Like) the name of Sin³ who decreed the fate of the city, whose splendour is unsupportable.
 (Like) the name of Babbar⁴ attendant of the gods."

In the liturgies to the real gods the singers often represent a god or goddess speaking to the congregation. So also in a liturgy to this immortalized king he stands forth proclaiming on the lips of the psalmists:

"Even as my heroism, as my valour,
 In wisdom verily have I been adorned.
 By a faithful command may I be directed.
 Justice may I love.
 Wickedness may I not love.
 I am Dungi, the divine, a king that is mighty, a man that excels all.
 My name unto far away days be proclaimed.
 My glory in Sumer be rehearsed.
 In my city may my constructions be established.
 The land of the dark headed people as one that tends his sheep may I
 behold gladly.
 The *kids* may *leap* in peace on the mountains."

¹ The earth god.

² Consort of the earth god.

³ The moon god, patron deity of Ur of the Chaldees.

⁴ The sun god.

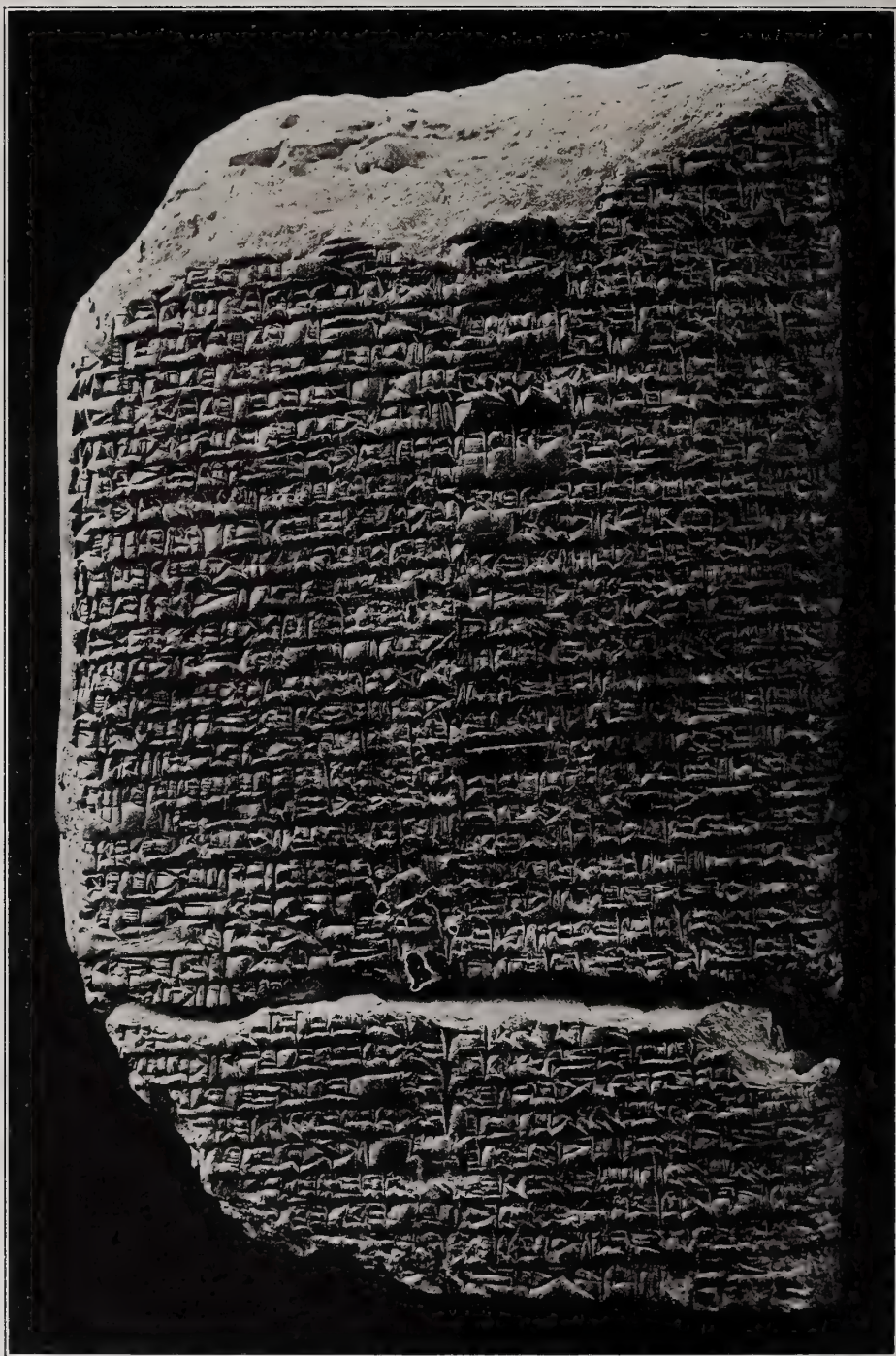


FIG. 63.—Liturgy in the Cult of a Deified King.
Obverse.

Here we have in the public song services of the cult of the very first god man complete acceptance of the idea that "Divinity appeared living among them." A Messiah had come and he had restored Paradise, which had been ended by the Flood. In fact this same liturgy refers to the Flood and tells how Dungi had come to banish the age of woe which had endured since the bliss of mankind had been ended by that disaster. The Dungi liturgy near the end has the following passage:

"Once on a time the storm, the wrathful word, the deluge gathered all.
The raging storm wind uttered its roar with terror.
The devastating storm with its seven winds caused the heavens to
moan.
The violent storm caused the earth to quake.
The rain god in the vast heavens shrieked.
And there were little hailstones and great hailstones.
But now the brick walls of the Temple of the Seal shine with splendour.
A king am I the storm winds [are silenced.]"¹

In these liturgies which proclaim the arrival of the Messianic Age we hear little of the hope that at last mortality had disappeared. In that period a personal name "Dungi is the plant of life" has been found in the inscriptions; perhaps there was a nascent hope that these saviors had actually banished mortality and death. But men still died and at last the god man died also. The death of the king was easily explained. He, like Tammuz, had gone to rest awhile in the shadowy world, or he had been received among the gods and ruled in one of the stars. Bur-Sin, successor of Dungi, was identified with Jupiter.

But men still died and this they probably explained by the belief that the Messianic Age had not been fully attained.

I venture to think that these liturgies were not sung in the cults of deified emperors after they had passed away, although their worship was otherwise maintained. They do not read like public ser-

¹ This important passage occurs in *Historical and Religious Texts*, page 17, Reverse, Col. I, lines 9-16. It proves that the deified kings were actually supposed to have inaugurated the Messianic Age. The Epic of Paradise, which also belongs to the Nippur Collection, is thus confirmed by the ideas set forth in this Dungi liturgy. The Flood, according to the epic, was sent by the angered creator of men to end the blissful age. And in our hymn to this divine savior we find him praised as the deliverer who now reclaims mankind from the evil age. The word employed in this liturgy for Flood, *marur*, translated into Semitic by *abubu* is the prototype of the word *mabbâl*, employed in Hebrew for the Flood. *Abubu* is also the word ordinarily employed in cuneiform literature for the Deluge or Flood.

vices which could be sung to any but a living king. They had not a mystical belief in his second coming, nor had they created a religion of redemption through divine suffering in a supreme sense. The very doctrine of the divinity of kings effectively prevented the final evolution of a great spiritual religion like Christianity. For there we have a messiah whose chief attribute is temporal power, a god man who came, lived and departed amid the blessings of the gods. And this temporal power and divine prerogative passed to his son who at once became the subject of a new cult. This was fatal to a long continued belief in a departed god man. As a matter of fact Dungi, like all other deified kings, never secured a permanent place in the pantheon. The chronicles of later ages in recording his reign admit his title as god but for them he is only a man. When his line perished and his dynasty passed all traces of his cult disappear.

The two successors of Dungi, Bur-Sin and Gimil-Sin, received full cult worship; temples were erected to them throughout the empire though their reigns were brief. We possess no liturgies of their worship, but in our collection has been discovered a fine large tablet, a liturgy addressed to Ninurash, god of war, to celebrate the elevation of Gimil-Sin as prince regent during the life of his father.¹ Ibi-Sin, last of the kings of Nippur, reigned 25 years and although he too was canonised and revered as a god man, yet he suffered the humiliation of captivity at the hands of the Elamites. A lamentation on this event has been found on a tablet of our collection in Constantinople.² Thus the four demigods of Ur failed even to secure the perpetuation of their temporal power. An usurper from the land of Maer, Ishbi-Girra, claims to have seized the hegemony of Sumer and he founded in 2358 the famous dynasty of Isin which endured to the times of Abraham and Amraphel and counted sixteen kings, all of whom received divine honors. Faith in these mortal saviors had not waned, but, as we see, flourished to the end of the last Sumerian dynasty. And it did not yield to a new religious faith as Roman Emperor worship yielded to Christianity, but this cult passed away because the Sumerians themselves became extinct. The Semitic conquerors who partially adopted this belief in the age of Sargon, rejected it in the age of Hammurapi, or at any rate rejected the

¹ Published by HUGO RADAU, *Babylonian Expedition*, Vol. 29, No. 1.

² Published in *Historical and Religious Texts*, pages 5-8. A hymn of Ishbi-Girra, founder of the Isin dynasty which succeeded Ur in the hegemony of Sumer, says that Enlil became angered against Ur and caused Ishbi-Girra, a man of Maer, to seize the foundation of Ur. No. 7772, unpublished. The Nippur Collection possesses three fragmentary hymns sung in the cult of Ibi-Sin, No. 8310; 8526; 13857, all unpublished.

cult worship of kings. Belief in their divine rights as sovereigns persisted, and an intimate connection between them and nature was held to exist to the days of Nebuchadnezzar. The rulers of Isin appear to have been Semites themselves, but the literature, religion and culture of their reign are thoroughly Sumerian. If god man worship continued here, even in more emphasized manner, it must be attributed to popular belief. The Semites of the Babylonian dynasty, whose state was also Semitic, probably eliminated this cult because they rejected the idea of a man god and also the idea of a restored Paradise. At any rate their poets constructed a great epic in twelve books, known as the Epic of Gilgamesh, and the thesis of this work is that man shall never escape the limits of mortality.

Our Nippur Collection seems to have been largely composed during the reign of these Isin kings, I mean the important literary documents of the Museum. During this period the fine and intricate Sumerian liturgies were written, which became the accepted prayer books of Assyria and Babylonia. Many beautiful hymns and liturgies of the royal cults of the Isin kings belong to the Nippur Collection. From these we learn that the canonized rulers were actually identified with the dying god and lover of the mother goddess. A fine Sumerian hymn of seventy-seven lines celebrates the betrothal of Idin-Dagan, third king of Isin, with Ninsianna, the great earth mother goddess, and queen of heaven.¹ The fourth king Ishme-Dagan, who ruled twenty years, has left the impression of his personality upon the literature of his period more than any other sovereign of that age. Two fine hymns of his cult have been recently published and translated.² Of him the psalmists of his cult sang:

"May the sun god place justice and righteousness in my mouth,
 He the judge, giver of decision, who directs the land,³
 Who makes justice exceeding good.
 The transgressor he pardons, the wicked he destroys.
 To justify brother with brother to the father he
 Not to justify the slander of a sister against the elder brother to a
 mother *courage he ensures*.
 Not to place the weak at the disposal of the strong.

¹ Published and translated by HUGO RADAU, *Sumerian Miscellaneous Texts* No. 2, and also edited by the writer in his *Sumerian Grammar*, 196-200. Visitors will find this tablet exhibited in Case 21 of the Babylonian Room, in the University Museum.

² In the writer's *Sumerian Liturgical Texts*, 143-149 and 178-184.

³ The choir here return to the third person in speaking of Ishme-Dagan.

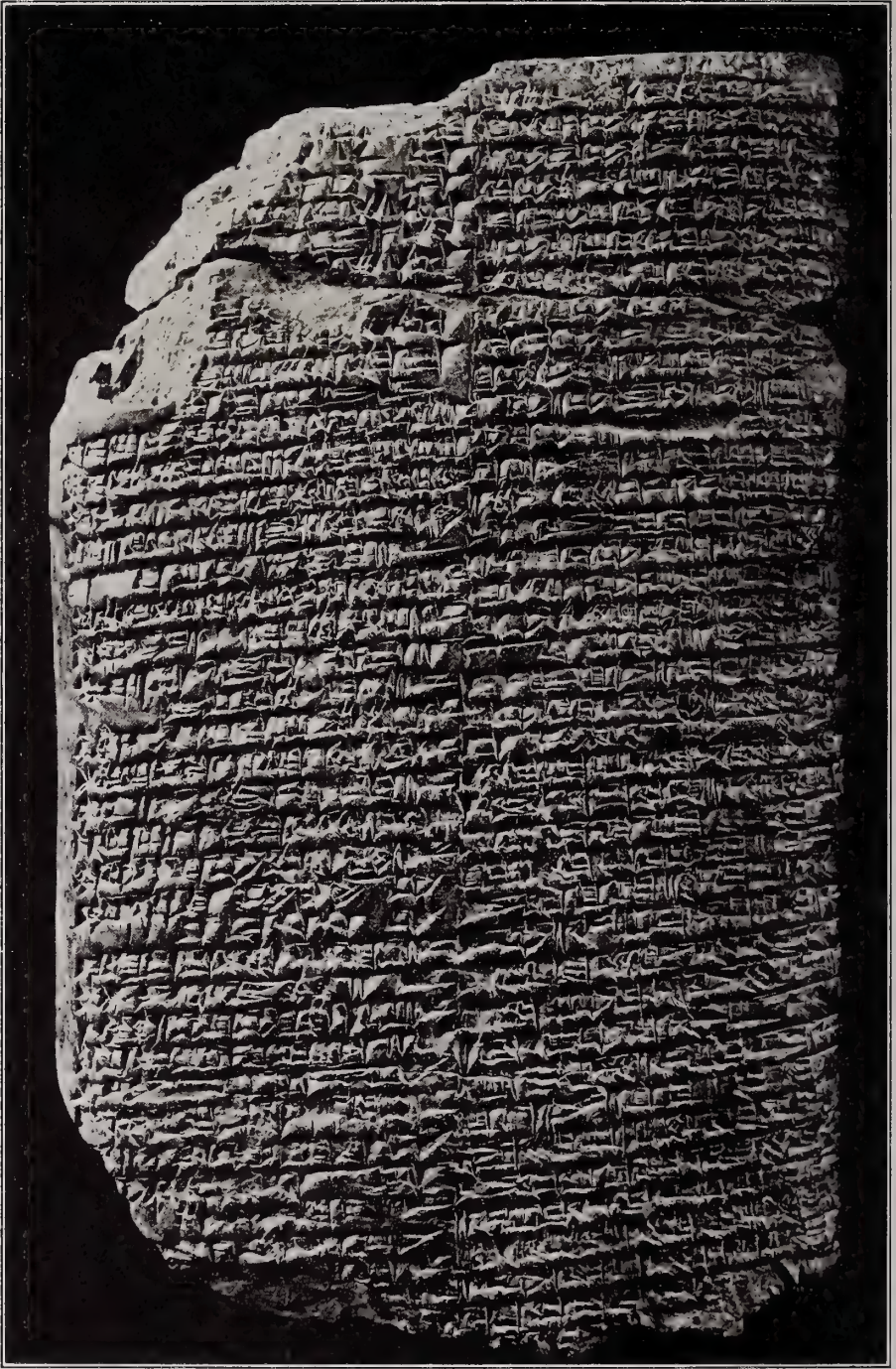


FIG. 64.—Liturgy in the Cult of a Deified King.

Reverse.

That the rich man may not do whatsoever is in his heart, that one
man to another do not anything disgraceful,
Wickedness and hostility he destroyed, justice he instituted.
May the sun god, son whom Ningal¹ bore, my portion fix.
He whom Innini,² queen of heaven and earth,
As her beloved spouse has chosen, I am."

A liturgy consisting of two long melodies glorifies him as the patron of nature. Enlil proclaimed that in his reign:—

"The Tigris and Euphrates shall bring thee abundance . . . and their
banks be full.
In the cellars of the gardens the honey shall reach the edges."

The Berlin Collection contains the twelfth melody in 38 lines of a liturgy sung in his cult.³

The fine double column tablet photographed with this essay contains a liturgy in six melodies of the cult of Ishme-Dagan. A few lines have been broken from the top but the greater portion of the 160 lines of this song service are preserved. This composition is an important addition to religious literature and unique among all the choral compositions of antiquity. Here the divine ruler actually appears in a character closely resembling that of the great *mater dolorosa* in the liturgies to the gods themselves. Briefly, the position of the unmarried mother goddess in the long daily liturgies of the temples of the ordinary cults was this. She occupies a position in relation to mankind sharply distinct from all the other great deities. The standard liturgies mournfully rehearse the tribulations of mankind, the glory and power of the great gods, and attribute all human woes to their wrath caused by the sin of men. But the virgin mother in melody upon melody is represented as a weeping mother of mankind, wailing with them before the angry gods. She is the great earth spirit from whom sprang mankind and all living things. Their sorrows are her sorrows. And, like Tammuz, her child, she is responsive to human fortunes. Therefore, the connection between the deified kings and the weeping mother goddess was apparent. He also shares their joys and sorrows, a divine man begotten of a great god and born of the *mater dolorosa* herself, to

¹ The wife of the moon god.

² Chief title of the unmarried mother goddess, virgin mother of Tammuz and his lover.

³ HEINRICH ZIMMERN, *Sumerische Kultlieder aus Altbabylonischer Zeit*, No. 200.

live among men as men live, to acquaint them with incarnate and tangible deity.

The newly deciphered tablet No. 13856 contains a liturgy to Ishme-Dagan modeled after the standard liturgies of the great gods, more particularly after the weeping mother song services in which the mother goddess Innini under various titles wails with her people.¹ All other public song services, hitherto recovered from the rituals of the cults of deified kings, consist in panegyrics on the divine character of the cult hero. But here the theologians have ventured into the extremity and have constructed a liturgy similar to the weeping mother services replacing the *mater dolorosa* by the man god. In their religious beliefs he was her son and beloved consort, and our new document confirms the conclusion that these heroes occupied in the minds of the believers a position of power over nature and of susceptibility to human experience equal to that of Innini herself.

The first melody contains about 50 lines and began by relating how Enlil had ordered the glory of Nippur, and then having become angered against his city he sent desolation upon her at the hands of an invader.

"For Nippur the city whose shadow extends afar
The people, the dark headed, he caused to have reverence.²
But her habitations he cursed.
Like scattered cows he scattered them.
In the city whose interior is filled with weeping,
While the consort, its divine queen is not solicitous for her,
The great house which knew the cry of multitudes,
Like a vast building in ruins men enter not.
In Nippur where great princes were prosperous, why have they fled?
The people, the dark headed, all of them like sheep are fled (?)
How long shall loud crying, weeping and wailing distress the heart
How long shall souls be terrified
And hearts repose not?
To the drum and loud tambourine will I sing."

This selection from the first melody affords an excellent sample of the first song of most of the daily liturgies. These melodies arranged to

¹ The limitations placed upon this popular exposition excludes a detailed discussion of the standard Sumerian prayer books used in public services. For an investigation in their principles see the writer's *Babylonian Liturgies* (Introduction).

² Nippur excavated by the Museum's Expedition was regarded by the entire Sumerian race with peculiar reverence.

follow each other, often to the number of twenty or thirty in one liturgy, originally referred to a real historical event, and such lamentations were incorporated into the standard breviaries and sung for ages as expressions of human sorrow long after the calamity itself had been forgotten. This melody which inaugurates the liturgy of Ishme-Dagan is probably borrowed from an ancient lamentation.

In the second melody of about thirty lines the divine savior king appears lamenting for human sorrows.

"Her population like cattle of the fields within her have perished.

Alas, my Land! I sigh.

Maid and young man and their children cruelly have been scattered
afar, tearfully I sigh.

Their brothers are fled afar (like those driven) by a storm wind.

The household like a cow, whose calf has been separated from her,
stand by themselves with sorrowful souls.

They have lapsed into the misery of silence.

Oh sing to the lyre; the wailers like a child nursing mother, who cries
in woe, because of them devise lamentation."

Between the second and third melody is a single line of antiphon probably sung by a priest while the musicians prepare for a new score.

"The meaning of the great decrees they glorify. Sorrowful words they
restrain not."

In the third melody the psalmists reflect upon the injustice of the city's fate and look for a time when Enlil will be reconciled. The song is of course only a reflection upon an historical event applied implicitly to universal affliction.

"The city whose lord is distressed

Until when shall it not return to its rest? Until when shall its 'How
long?' not be spoken?

Why are its brick-walls trodden under foot,
And the doves screaming fly from their nests?

Bitter lamentation I utter, tears I pour out.

Oh sing to the lyre, he that speaks the song of wailing.

The hearts which are not glad it will pacify.

The decrees of their lord they have glorified.

He¹ concerns himself not with their oracles, he cares not for their destiny."

Here ends the third melody and a two line antiphon separates it from the fourth.

"His great decrees thus he has ordered.

He has concerned himself not with their oracles; he cares not for their destiny."

In the fourth song the choir again represent the god Ishme-Dagan sorrowing with his people.

"He of melodious song the sorrowful fate weeps for.

Sound of mourning he causes to arise, lamentation he utters.

Now oh sing to the lyre, they that know the melodies.

Now I am filled with sighing.²

Her population offer prayers to me.

Now my intercession, my pleading³

Even now mightily the population unite with me in making known
(to the gods).

Upon ways of pain my mercy,

Oh woe, my children weep for.

In the house, the well built temple, in their dwelling,

Sound like one chanting is raised and praise is diminished."

The fifth melody ends with a passage representing Ishme-Dagan interceding with the earth god.

"Thy heart whose portion has been affliction become for me a glad heart.

Thy head which is held aloof turn unto me to glorify thy portion.

The hostile deeds which he did unto thee be returned upon his head.

In the city which knew not forgiveness let there be given the cry of multitudes."

The last sixth and final song promises the end of Nippur's sorrow. Enlil has ordered the restoration of peace and has sent his beloved shepherd Ishme-Dagan to bring joy to the people.

¹ The pronoun refers to Enlil.

² Liturgies pass from first to third or second persons and *vice versa* promiscuously and unexpectedly.

³ Here the divine savior intercedes for mankind with the great gods.

"He will have mercy and will decree thy fate.

Unto the brick walls where lamentation arose he will command 'it is enough.'

Thy happy soul he will cause to return for me.

Ninurash the valiant guardsman will sustain thy head.

His pastor he will establish over the city."

These selections will give an idea of the general character and trend of ideas developed in this remarkable cult document. The reader must not infer that the doleful reflections of the choir and their fanciful figure of the divine ruler weeping for a destroyed Nippur actually refer to a state of affairs when the liturgy was sung in the cult of this king. Nippur is only taken as a concrete example of universal sorrow. This song service has a more universal application and a deeper meaning. It describes the miseries of life and the solicitude of the man savior, he who intercedes against the wrath of god aroused by sin. We may, therefore, be modest in claiming for our new tablet a place of peculiar importance in cuneiform literature. The large number of song services of these cults now recovered in our Museum emphasizes once more the supreme fact in the religious beliefs and moral conduct of humanity. To be effective a great religion at one time or another is bound to find "divinity appearing alive among them." The divine and moral measure of this personality has largely determined the character and the success of all great religions.¹

¹ The reader may wish to know the extent of the hymns and liturgies now recovered from the cults of the remaining kings of Isin. Libit-Ishtar, the fifth king, is the subject of a fine song service in four melodies published by ZIMMERN in his *Kultlieder* No. 199. A fragment of a hymn to Enlilbani, eleventh king of the dynasty, belongs to the Nippur Collection in Constantinople and is published as No. 38 in the writer's *Historical and Religious Texts*. A fragment containing the opening lines of a fine hymn has been published in the writer's *Sumerian Liturgical Texts*, 140-2; the king in question is uncertain. Probably Libit-Ishtar.

S. L.

DUTCH GUIANA POTTERY

THERE have been many changes in Dutch Guiana since 1498, when Columbus first saw its shores. White pirates, explorers seeking the fabulous El Dorado, adventurers, and traders came. Settlements were established with great difficulty and large plantations were developed, especially by the Hebrews. Dutch, French, English and Spanish contended for the country which was finally assured to the Dutch by the English in exchange for New York City by the treaty of Brida in 1667. After the Dutch gained control, the Indians were completely conquered and then granted the best possible terms of peace. The whites were not to enslave the natives but could purchase their prisoners of war. The Indians were thus encouraged to fight among themselves and take prisoners to sell. Negro slaves were introduced at an early time but many of them ran away or rebelled and gained their freedom. These reverted to their former African customs and adopted from the Indians others necessitated by their new environment. Villages of these "Bush Negroes" occur along the borders of the white settlements. Still further in the interior, are the Indians who, being unable to compete or even coexist with the blacks, have rapidly diminished in numbers.

In the upper reaches of the Maroni River on the Dutch side are several Indian villages whose inhabitants still retain many of their original customs and are in as primitive state of culture as they were three centuries ago. Among the women the main domestic art is that of pottery making. While this art has been influenced by the newcomers it still shows that the natives had brought it to a high stage of development before the arrival of the whites. The articles made vary in size from large vessels over two feet in diameter to very minute and elegantly made trinkets.

The taste and skill of the potter determine the form and decoration. A woman may have a favorite form or system of decoration but more generally she is very adept at combining old forms or devising new ones and has a large variety to select from. The best and the oldest shapes have their inception in nature but many good articles are copies of the plates, cups and other dishes used by the whites. The calabash furnishes the model for the simplest sort which are

usually used as water bottles. Another group has the duck for its inspiration. These duck vessels are frequently made because some of the first buyers expressed a preference for them. Other zoö-morphic forms occurring include the peccary, the tapir, the turtle and the fish. By combining two or more of these animal prototypes some extremely fantastic shapes are produced. Double vessels and some composed of three or more elements joined together are very similar in form to prehistoric ones found in both of the Americas.

The clay used occurs along most of the streams near the savannas and is nearly pure white kaolin. Elsewhere and at a little depth the



FIG. 65.—Water bottles. Dutch Guiana.

clay contains a small amount of iron, which gives it a red or yellow color. In making a pot a piece of soft moist clay is pressed into shape to serve as the bottom and on this many very thin coils are built up and the whole finally carefully smoothed inside and out with a pebble or preferably an old stone ax head. To make it more elaborate, handles, heads, wings or legs are modeled and stuck on. After drying for a short time the vessel is painted according to the fancy of the decorator. It may simply be smeared over with *ruku* or red paint and burnt over an open fire, or it may have been made of clay mixed with burned *kwepi* bark. In the latter case the vessel burns to a warm reddish yellow color. Designs are painted on and it is again burnt.

Three colors are used; a red vegetable paint *ruku*, white clay *pimbi doti* and a black paint *taporipa*. They are often combined in different proportions to make new shades. The designs on the modern pottery are usually simple irregular geometric figures made of narrow black or brown lines. They are generally in a salmon or gray colored panel bordered with dark red. The patterns are derived from the conventionalized animal figures found on some of the pots and occurring on many of the early artistic productions of the people. The modern pottery is flat bottomed so that it will stand on a hard surface. Formerly the base was rounded or sharp in order that it would stand firmly in the soft sand floors.



FIG. 66.—Food bowl. Dutch Guiana.

In addition to the extensive domestic need of pottery there has been a demand for it by the traders and travelers. Pots and dishes are used about the camp for storage and cooking, for holding trinkets and as water bottles. As the clay does not become vitrified in burning but remains porous the water bottles are very practical as enough of the water percolates out to evaporate and cool the contents.

Perhaps the major portion of the earthenware is made to sell or trade at the white settlements. Here it brings good prices as the French and other travelers desire to get the articles for souvenirs and decorations. The pottery is also used for domestic purposes by many of the white settlers of the region.

A very valuable collection containing an assortment of this ware



A

B

C

FIG. 67.—Typical smaller objects. Dutch Guiana.



A

B

FIG. 68.—Double water bottles. Dutch Guiana.



FIG. 69.—Tray form. Dutch Guiana.

was collected by Mr. T. J. Collins of Haddonfield, New Jersey, and presented to the University Museum some time ago. The pottery of the collection is of greater artistic value than the bags, baskets, fire fans and models of other things used in the daily life of the people.

A few of the unique and interesting specimens are figured in this article, but as most of the pieces are different in form and decoration the entire collection should be seen to realize fully the variety of forms and decoration. This pottery will soon be on display at the Museum.

Fig. 67 c, one of the most common forms seems to be an intermediate stage between the calabash and duck forms. It has been suggested that all of the bird forms are derived from the calabash shaped water bottle. First the artist added a tail to balance the



FIG. 70.—Teapot form. Dutch Guiana.

neck. Later he changed the simple mouth to form a duck's bill and finally he added wings, thus completely transforming a very useful article to an impractical ornament. This specimen is five and a half inches long and has salmon colored panels on the sides and back separated by broad reddish chestnut bands. The panels are simply decorated by a lattice design in black. The neck and part of the tail are light chestnut, almost a lemon color.

Fig. 68 a, a double form is a combination of two of the simple bird forms having a common base and a curved connecting handle. It is 5½ inches high and 11 inches from bill to bill.

Fig. 68 b, a double necked bottle has an opening only in the longer neck. It has the usual decoration of broad reddish brown lines between which are lines irregularly arranged at about equal distances from each other.

Fig. 70, is a crude animal teapot form 9 inches high. It, also, has panels on the sides which are a pale gray color instead of the usual pinkish tint. The neck and tail panels have lines in a lattice arrangement while the others have the more usual irregular patterns.

Fig. 66, a common form is 14 inches long, 10 inches wide and 4 inches deep. Around the rim is a very broad dark red band in which is a white band and a row of holes. The white band is outlined in black and contains a number of black spots. The inside bottom is painted with the customary irregular line decoration while the outside bottom is a lattice design in broad black lines which inclose black spots.

B. W. M.

A GREEK JOINTED DOLL

THROUGH the generosity of Miss Alice M. Freeman, the University Museum has recently acquired a little terra cotta of extraordinary interest. This is a small female figure, nude, and with arms and legs that fit into joints in the body, to which they are attached

by means of thread. Miss Freeman bought this interesting specimen in Athens many years ago, and presented it to the Museum last winter. On the occasion when she brought it to the Museum, she told the writer that it is doubtful whether the head is part of this, or of another figurine. It was decided, however, to join the head to the body, as the fit seemed close enough to warrant the assumption that they belonged together; and, in any case, the real head, if this be not it, was almost exactly the same.

That this little statuette (it is only fifteen centimetres in height) was a toy, is clear. We can, therefore, look on it with absolute certainty as a doll, the favorite plaything of some little Athenian girl of long ago, in the days when Pericles was great in Athens. Doubtless she used to dress and undress it, to put it to bed and fondle it, just as little girls of today are accustomed to do with their larger and more elaborate dolls. One is tempted to romance about it, and deduce from it that the little girl who owned it died young, and had it, as her favorite plaything, laid to rest in the tomb with



FIG. 71.—A Greek jointed doll.

her. Moreover, such romancing would probably not be far from the truth.

The existence of dolls like these has been known for a long time, and there are others in existence in museums. Still, they are not com-

mon, and the acquisition of one by the University Museum is a great piece of good fortune. A similar one, in the Museum of Fine Arts in Boston, will be found published in Fowler and Wheeler's excellent book, "Greek Archæology," page 297, Fig. 220. The Boston specimen is about ten centimetres taller than Miss Freeman's gift, and shows signs of having been painted, faint traces of which appear on this specimen also.

With this gift, Miss Freeman also presented to the Museum a small Attic red-figured skyphos, or two handled cup, of the "late fine" style, which was prevalent in the end of the fifth century B. C. On one side of the vase is a design of a seated youth and a maiden; on the other, an Eros, or love god, and a Maenad. The principal beauty of this little vase lies, not in its paintings, which are of the decadent period, but in the fine, delicate, egg shell clay, and its perfect preservation.

S. B. L.

A LOAN OF THREE GREEK VASES

THE Museum has had the good fortune to secure a very interesting loan of three Greek vases, all in good condition, and each typical of the period in which it was made. These vases are the property of Mrs. John Kearsley Mitchell, and were acquired by her father-in-law, the late Dr. S. Weir Mitchell.

The earliest of these vases is an *œnochoe*, or pitcher, made, either in Corinth, or by Corinthian colonists in Italy (Fig. 72). The decoration of the body is characteristic of the Corinthian technique, and shows its "Orientalizing" tendency, the result of the great trade relations existing between Corinth and Asia Minor. It is divided into three bands, or zones, in each of which is a row of animals. The upper band consists of a ram, a lion and a goat; the middle, of four lions, a ram, a swan and a goat; the lower, of three lions and three goats. With a "horror vacui" typical of these "Orientalizing" vases, the field is sprinkled with a profusion of dots and rosettes. Details are rendered by an abundant use of incised lines. The neck and trefoil mouth are plain. At the foot are rays of black on a light ground.

It is hard to determine whether this vase was made in Corinth itself or whether it is "Italo-Corinthian." But it seems to me probable that this *œnochoe* is a true Corinthian specimen. It is fortunate that there is in the possession of the Museum a good collection of Corinthian and Italo-Corinthian vases, with which it is possible to compare this vase. By looking at a pair of pitchers of Corinthian technique already in the Museum (No. 31, in Case XII of the room to the left of the staircase) it was found that the specimen loaned by Mrs. Mitchell corresponded with them in almost every detail, except that it is smaller, and is undecorated on the neck and lip, while the specimens owned by the Museum have these parts ornamented with rosettes in white.

The preservation of this *œnochoe* is excellent; although it has been mended in many places, most of the vase is still there. It was made in the late seventh or early sixth century B. C.

The second of these vases is an Attic black-figured panel-amphora, so called because the designs are drawn in black in panels left in the color of the clay, while the rest of the vase is covered with black varnish. This vase is in every respect the finest of the three loaned, and

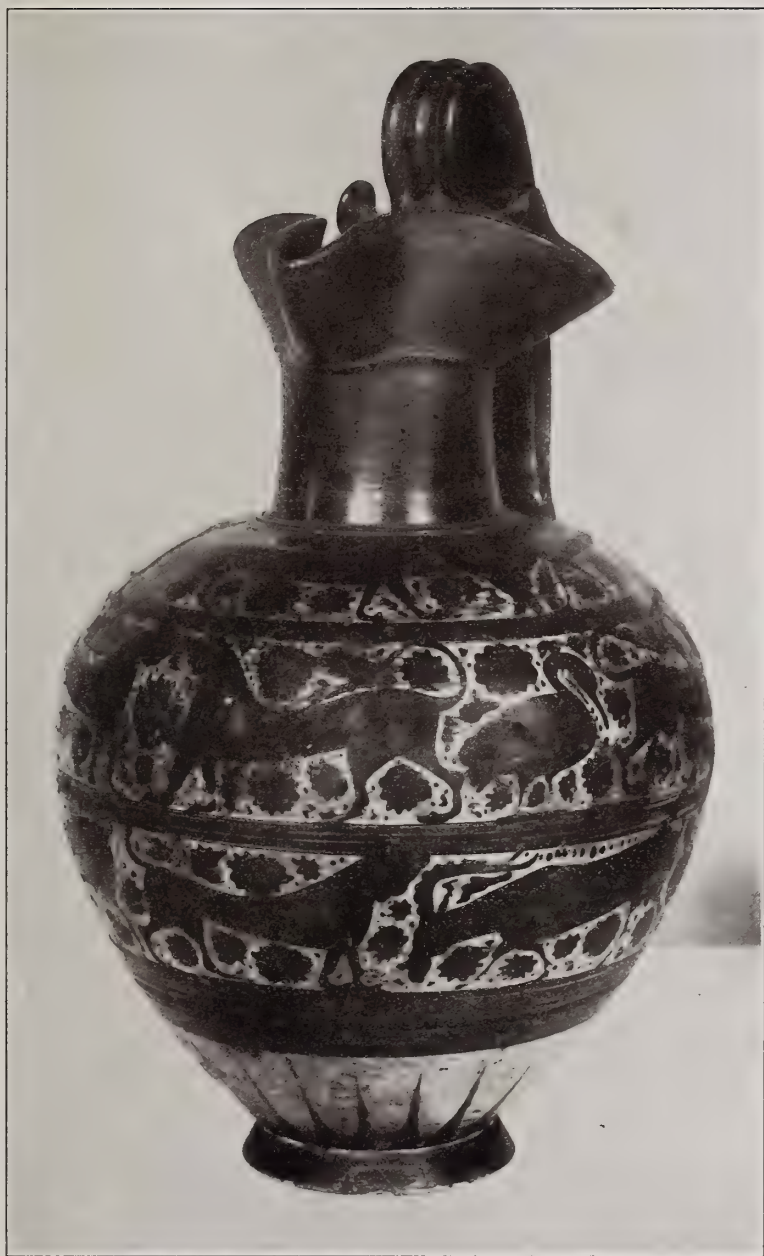


FIG. 72.—Corinthian Oenochoe.
Late seventh or early sixth century B. C.

in the brilliancy of its glaze and its perfect preservation is not only unsurpassed by any specimen already in the Museum, but is the finest specimen in Philadelphia known to me. It was made early in the best period of the Attic black-figured technique, about 530-525 B. C.

Side A, or the obverse (Fig. 73), has as its design a warrior, facing to the right, wearing a helmet with a high crest, a cuirass, under which is a short chiton, or undershirt, and greaves, and carrying a round shield on his left arm, and two spears in his left hand. He is mounting a light four horse chariot, or quadriga, and holds the reins in his right hand. Beside the chariot are three other warriors facing him, on foot, similarly armed. At the top of the panel is a band of lotus buds.

On Side B, the reverse (Fig. 74), a horseman is seen, facing the left. He is bareheaded, and wears a cloak, called a chlamys, and carries two long spears in his left hand. By accident the vase painter has given the horse two of each leg, or eight legs in all. This is a not uncommon mistake. Details of the drapery of the rider are given in white overcolor, most of which has worn away. On either side of the horseman is a warrior, armed as on Side A. Originally, their round shields were decorated with devices in white overcolor, most of which has gone. Above, as on Side A, is a band of lotus buds.

Besides the white overcolor we find red used on Side A for the manes and tails of the horses, and the greaves of the warriors, while there are also traces of white in the legs of one of the horses. Details of drapery and anatomy are in all cases rendered by a very copious use of incised line drawing, done with painstaking accuracy and skill. The base has a ray pattern in black on the color of the clay.

There are several indications that tend to put this vase in the beginning of the best black-figured period, or in the neighborhood of 530 B. C. They are minor details; the stiffness and archaic quality of the drawing in this case is not such a good criterion, as this stiffness is to a certain extent characteristic of the entire black-figured technique. I will mention, however, two of these points, that prove the vase to be of early date. The first is the absence of palmettes, and the presence of lotus alone at the top of the panel. The palmette later becomes almost inevitable on all vases; but the use of the lotus antedates the palmette. It is true that this lotus chain found on this amphora is found on red-figured vases by Euthymides in the fifth century; but it is always in conjunction with palmette ornaments as well. It is the absence of the palmette that is significant.

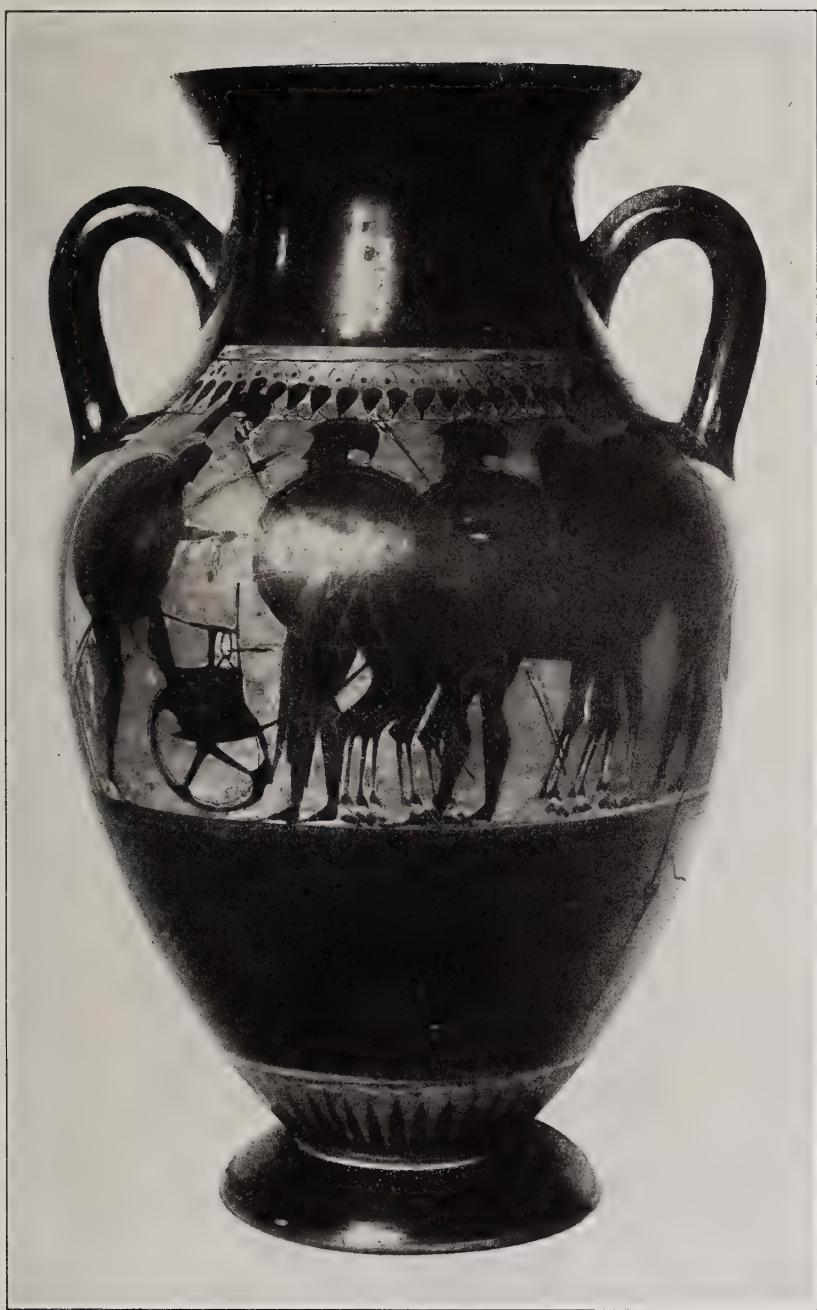


FIG. 73.—Attic black-figured panel Amphora.

A. Warrior mounting a chariot in the presence of three other warriors.

Ca. 530–525 B. C.

The second point lies in the handles. The later panel amphorae nearly all have flanged handles. The round handles on this vase, coupled with the absence of palmette decoration, point to the early date in the black-figured technique assigned to this specimen.

The third vase takes us away from Greece, and brings us down a little over a century later. At this time, when the Peloponnesian War was raging, and when Athens went down to defeat in the Sicilian Expedition, she lost more than her military prestige and political supremacy; her commercial predominance in the ancient world departed as well. During the fifth century the Athenian potters and vase painters had driven all others out of competition. Attic vases were exported all over the ancient world, and were prized by lovers of the beautiful in Italy, in Asia Minor, in the Islands, and even in the Crimea, as the excavations show us. When, therefore, the Peloponnesian War broke out, and the supply of Attic vases was automatically diminished, if not altogether stopped, it was natural that wares in imitation of Attic should arise.

This is true especially in Southern Italy, among the Greek colonists there. Three or four styles can be distinguished one from the other, of these imitative wares. They take their names from the localities in which they are found, and are (1) the so-called "School of Paestum;" (2) the Lucanian; (3) the Campanian; (4) the Apulian. It is to this last class that our third specimen belongs.

A few words about the Apulian ware may not be out of place before passing to the formal description of this vase. It is the largest class in point of the area covered, and the most numerous in point of specimens found, of any of the South Italian techniques. Every shape of vase known to the Attic potter was made by the Apulians; and certain forms, like the enormous kraters, or mixing-bowls, with volute or medallion handles, so common in the Musée Nazionale at Naples,¹ they may be said to have developed and made their own. At first they imitated quite closely the vase painters of Attica; later, however, they developed a peculiar style, that is almost unmistakable, and finally they degenerated to a very poor, florid, decorative manner. The places where Apulian vases have been most commonly found are the following ancient sites: Tarentum (the modern Taranto); Canusium (the modern Canosa di Puglia); and especially Rubii (the modern

¹ A good example of this kind of vase, perhaps the best in America, is on exhibition in the Museum of Fine Arts in Boston.

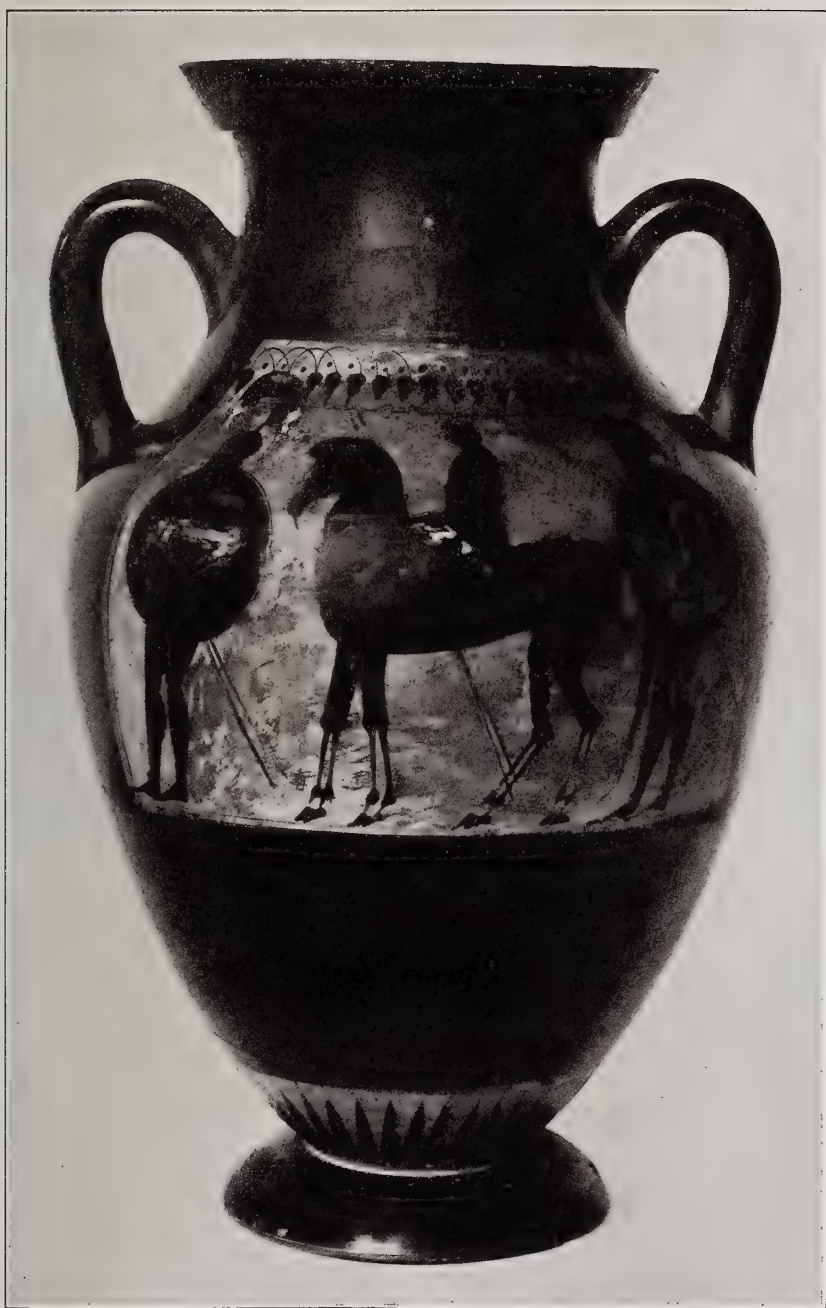


FIG. 74.—Attic black-figured panel Amphora.

B. Horseman and two warriors.

Ca. 530-525 B. C.

Ruvo di Puglia). The best collections are in Italy, in the museums of Naples, Taranto, and Bari, and the Jatta Collection at Ruvo.

The vase under discussion is a good example of the Apulian style, as it was on the point of departing from the Attic models, and



FIG. 75.—Apulian Bell Krater.

A. Youth, maiden and satyr.

Ca. 400 B. C.

developing its own peculiar features. Its relatively early date (ca. B.C. 400) is proved by the absence of overcolor. On a later specimen, e.g., in the exhibition room to the left of the staircase, No. 94 in Case XIII, the woman on Side A would be done in white. More emphasis would be

laid in a later specimen on the dots under the feet of the seated youth, to represent the ground, a trick peculiar to the Apulian technique. Otherwise, the drawing of the vase, in its freedom of execution, and the type of design, shows what might be called the typical early Apulian



FIG. 76.—Apulian Bell-Krater.

B. Two youths.

Ca. 400 B. C.

manner, free from most of the Atticism of the earlier, or "Atticizing" period.

In shape it is what is called a bell krater, from the bell-like form. The handles are placed near the lip. This shape was invented in

Athens in the fifth century B. C., in the period of the Attic red-figured technique. No black-figured vases of this shape are known to me. In this specimen, as in the Apulian vases generally, the red-figured technique is employed.¹ Around the lip, a wreath of laurel is painted; under the handles are large palmettes; and below the principal designs, a meander pattern.

The principal design (Fig. 75), has as its central figure a seated youth, facing the right. He is nude, and sits on his garments. In his left hand he holds a large bowl or basin, of a kind of which many examples have been found. Facing him is a nude youthful Satyr, gesticulating with his hands, with his right foot resting on a rock, so that the leg is bent. Behind the youth is a woman, dressed in a long chiton bound around the waist by a girdle, to leave a fold, known as a kolpos, just above the girdle. In her left hand she holds a large round object which seems to be a tambourine, as her right hand is drawn back to strike it. This woman is a typically Apulian figure.

The reverse (Fig. 76) has two youths meeting each other. The one at the left is standing still; he is draped in a himation, and carries a staff. The one at the right moves towards him. He is nude, and carries his himation on his left arm. He has a staff in his right hand. Between them, in the field, is a round, disc-like object.

It is a pity that no information is available as to the finding place of these vases, as they would thereby gain in archaeological interest; but artistically they are very fine, and the Museum is very grateful to Mrs. Mitchell for depositing them in its care.

S. B. L.

¹ A few small Apulian vases, mostly lekythoi, or oil-jugs, with black figures, are known, but they are rather rare, and are not pleasing in an artistic sense. There are three of these lekythoi at Memorial Hall, Philadelphia.

THE CHINESE EXPEDITION

AS announced in the last issue of THE MUSEUM JOURNAL, Mr. Carl W. Bishop, leader of the Museum's Chinese Expedition, arrived in Japan March 21st on his second tour of investigation. Three weeks were spent in research and study of Chinese art, including a trip to Sendai, which is a noted center of Japanese antiquities. Mr. Bishop visited a number of artificial caves of unknown age, known locally as Yezo-ana (or Ainu Caves), supposedly dating back to the Ainu period. He hazards an opinion that the caves were excavated by a colony of Buddhist monks, partly as shrines and partly as cells, perhaps not long after the conquest of the region by the Japanese in the Eighth Century.

Mr. Bishop reached Peking late in May only to find all China in a disturbed condition. In part this was due to the unsettled political situation, in part to an unusual drought and in great measure to the enhanced value of silver which had upset all commercial and financial calculations. Prices of all commodities had risen and labor costs naturally increased proportionately.

Under date of June 25th Mr. Bishop writes:

"During the first few days after my arrival in Peking I looked up a number of people who were in a position to give me information and advice. I had a very interesting interview with our Minister, Dr. Reinsch, who is a great friend of the Chinese. I explained to him the efforts being put forth by the University Museum to throw light on China's past through the medium of archaeological research, and he very cordially promised to do everything in his power to further our efforts.

"I met Dr. Ferguson soon after my arrival, and learning that he and Dr. Bosch Reitz were going to the Lung Men grottoes, near the old Wei and T'ang capital of Honan Fu, I arranged to go with them. We left Peking the 30th, going first to Kaifeng Fu, the old capital of the southern Sung and the former seat of an ancient Jewish colony. While we were in Kaifeng the rebellion of the military leaders took place, but as there was no antiforeign element in the disorder we decided to go on to Honan Fu and visit the Lung Men grottoes. By the time we had got to Honan Fu the rebellion

had taken the form of commandeering rolling stock on the railway for a move of troops on Peking, and Dr. Ferguson said we were in danger of being cut off indefinitely in this remote corner of Honan province. Consequently we cut our visit rather short, although I succeeded in getting some very fair photographs which will serve to illustrate the progress of Chinese sculpture.

"Upon our return to Peking on the 4th inst. I proposed a visit to the famous grottoes of Yün-kang, near Ta-t'ung Fu, in northern Shansi, which were excavated and carved during the early northern Wei, before the removal of the capital to Honan Fu. Mr. Bosch Reitz and I proceeded to Ta-t'ung Fu by rail and then on to the grottoes by cart, sleeping one night there in a temple and taking quantities of photographs. We found the place much more interesting than Lung Men, and I hope to visit it again and get additional notes and pictures.

"The heat here is something terrific, averaging well over a hundred, and with no prospects of alleviation before the beginning of September. It is much worse than I found it two years ago, I suppose on account of the lack of rain. The dust of course makes things much worse and sifts in everywhere."

It was unfortunate for Mr. Bishop's plans that the disturbed condition of the country made it impossible for him to commence his explorations in the interior but meanwhile he was engaged in preparations and in acquiring a better knowledge of the Chinese language. Then the counter-revolution broke out which lasted for a few days and collapsed. Mr. Bishop's diary of events is so concise and at times so graphic that it is here (for the most part) reproduced.

"JULY 1. This morning about three o'clock Chang Hsun, the commander of the 'pigtailed' troops, restored the little Manchu emperor to the throne, and by police orders the old dragon flag is flying from every shop front. The prevailing impression is that the restoration will not be lasting.

"JULY 5. A mounted messenger from the Legation Guard came with a notice to prepare to take refuge in the Legation at a moment's notice, so I got my papers, journals, photographs, firearms and ammunition packed up for instant removal. Spent the rest of the day at the Wagons Lits Hotel and the Club; refugees, foreign and native, flocking into the Legation Quarter with their goods, and even the courtyards crammed with campers. All com-

munication with the outside cut, and everybody apprehensive. Republican troops reported on the way from Tientsin to oust the Imperialists, who have cut the railway.

"JULY 6. This evening a special train got through from Peking with American, Japanese, and French colonial troops, in all about 250, as a reinforcement for the Legations, and people feel much easier. Upham and I decided not to take refuge in the Legation Quarter, as we both had valuable stuff, including all my outfit, which we did not care to leave to looters, and which we would not be allowed to bring into the Quarter with us.

"JULY 7. Fighting yesterday southwest of town, and reported that the Imperialists are being driven back on Peking. Upham and I volunteered to ride out and try to see what was actually going on; meant to ride around left wing of Imperialists and get in touch with Republicans, but found former extending much further east than anyone thought, and were turned back, though treated courteously.

"JULY 10. Saw Dr. Cather, the post surgeon, as I have never fully recovered from the touch of the sun that I got on June 28th; he prescribed for me, and would take nothing, as he said he was an old University of Pennsylvania man, and glad to help on anything connected with the University.

"JULY 12. Awakened about 4.30 A. M. by heavy firing, the Republican troops having attacked the Temple of Heaven and Chang Hsun's residence in the Forbidden City. Mr. Upham and I at once ordered breakfast and then went up on the city wall to see what was going on. It was a pretty sight, with shrapnel bursting, two aeroplanes circling overhead, horse and foot dodging among the streets in the Chinese city, and rifles, machine guns, and artillery going off incessantly. Stray bullets flew all about, and hardly a compound in town but was struck.

"Early in the engagement the Imperialists holding the outer tower of the Chien-Men, the great south gate, turned a machine gun on us foreigners on the wall and there were several casualties, one man receiving four wounds, while another will probably die; nearly all those hit were Americans. Legation Quarter closed and barricaded, and guards all on duty, with machine guns ready for action. Stopped at the Hotel on my way home and after lunch took a nap. When I awoke the firing had ceased, and I learned eventually that the 'pigtailed' had surrendered at the Temple of Heaven about eleven, upon which Chang Hsun fled to the Dutch Legation, and his men in

the Forbidden City fought until about two thirty, and then surrendered also. Considering the amount of ammunition expended, the casualties were surprisingly low. It speaks well for both sides that there was no looting and practically no interference with non-combatants save what these brought on themselves by getting too close to the firing. Martial law this evening, but everything quiet.

"JULY 13. Went around getting photographs of the scenes of yesterday's fighting. Chang Hsun's palace a perfect wreck, having been shelled and then burnt; the ruins were still smoking, and all around, both inside and in the street, were cartridges, broken weapons, bloody caps and boots, dead horses, furniture, papers, and debris of all kinds. I believe I got some very good photographs, although they are not yet developed. Although the counter-revolution was of short duration political conditions remained more or less uncertain. Fortunately the long drought was broken but in many cases the damage to crops by flood was as severe as that by the heat. A trip to Shanghai in search of some ancient and rare books on Chinese art was successful."

In a letter dated August 14 Mr. Bishop writes:

"Yesterday I received a most cordial note from Professor Sayce, who is summering at Miyanoshta, a hill resort in the Mt. Fuji region, inviting me to come and see him, and to accompany him on a visit to the famous old ninth century monasteries at Mt. Koya (Koya-san) in the mountains south of Kyoto. They are reputed, I think with good cause, to have been founded by the Japanese monk Kobo Daishi, who was, if tradition is correct, an Admirable Crichton, a Michael Angelo, and an Apostle Paul rolled into one. At least it is pretty certain that he studied in China during the great T'ang period, in the very region which I plan to visit this fall, and that he brought back with him valuable manuscripts. Professor Sayce writes, 'Dr. Kuroito, of the Institute of Historical Compilation, is to come too, in order to establish a museum for the conservation of monastery "treasures."' Undoubtedly the occasion will be an important and an interesting one, and I hope that nothing will occur to keep me from being one of the party.

"Among other things I have been diligent in securing as fine a collection of photographs of all kinds as possible, particularly with a view to making slides. For one thing, I have adopted the plan of carrying with me a box of water colors, and roughly coloring prints on the spot, to serve as guides in coloring the slides themselves. In

this way I hope to have a large number of slides to serve as adjuncts to talks on a large variety of topics calculated to interest the public in connection with our work."

If Mr. Bishop has been enabled to carry out his plans, he is now actively engaged in exploring the ancient art centers of the interior.

NOTES

The two expeditions to Alaska under the liberal patronage of Mr. John Wanamaker are accomplishing good results and have already sent valuable collections to the Museum. Mr. Louis Shotridge is continuing his studies among his own people, the Chilkats, in Southeastern Alaska. Mr. W. B. Van Valin, who arrived at Nome in July, has sent back some very interesting archaeological and ethnological specimens from that regions. He expects to spend the winter among the Eskimo along the coast between Nome and Point Barrow.

Mr. Alfred Hendrickson has presented to the Museum a stone axe found by him near Swedesboro, New Jersey.

Dr. Charles D. Hart has presented an elaborately carved dragon from China.

Miss Florence Sibley has presented a valuable collection of Egyptian scarabs and amulets.

Mr. John B. Stetson has loaned to the Museum a mummified head of an Indian collected 200 years ago at the foot of the Andes, and formerly in the Alvarado Collection at Quito, Ecuador. Mr. Stetson has also placed on loan a beautifully decorated shirt of bark, an elaborate feather headdress, a native spear and other implements.

Miss Emmeline Goodman has placed on loan in the Museum an American Indian collection consisting of fine Navaho blankets, Sioux beadwork, California baskets, and costumes from the Northwest Coast.

Mrs. John Kearsley Mitchell has kindly loaned to the Museum a valuable collection of pottery. Three very interesting Greek vases from the collection are published in the current number of the JOURNAL.

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Letters have been received from Mr. Alexander Scott stating that he expects to return to this country early in 1918. Mr. Scott has been collecting for the Museum in India since 1915 and will bring back with him the results of his work.

The George G. Heye North American Indian Collection which has been on exhibition for the past eight years, has been withdrawn from the Museum and will be exhibited in the new Museum of the American Indian in New York which has been founded by Mr. Heye.

The halls formerly occupied by the Heye Collection will now be devoted to the collections made by the recent South American Expedition and to other collections of the North and South American Indians which have been in storage owing to lack of sufficient exhibition room. The work of installing these new collections will occupy several months.

Dr. G. B. Gordon, the Director of the Museum, is away on a six months' leave of absence and Dr. Farabee has been appointed Acting Director in his place.

Mr. H. U. Hall, the Assistant Curator of the Section of General Ethnology, left the Museum on July 15th in order to give his services to the country. He is now with the Second Pennsylvania Field Artillery at Camp Hancock, Augusta, Georgia.

Mr. B. W. Merwin, the Assistant Curator in the American Section, left the Museum on September 18th for military service. He is stationed at Macon, Georgia.

Since the last issue of the JOURNAL the Museum has published in the Babylonian Series a work by Dr. Stephen Langdon, Curator of the Babylonian Section, entitled A GILGAMISH EPIC.

Dr. Langdon will leave this country during September to give a course of lectures at Oxford University. He expects to return to the Museum in the early part of 1918.

The Museum has published in the Anthropological Series, Dr. Franz Boas' work on GRAMMATICAL NOTES ON THE LANGUAGE OF THE TLINGIT INDIANS.

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The Museum has published reproductions by the photostat process of two manuscripts in the Berendt Linguistic Collection. One of these manuscripts, *DICCIONARIO POCOMCHI-CASTELLANO Y CARTELLANO-POCOMCHI*, is the work of a Dominican missionary written about the end of the sixteenth century. It was presented to Dr. Berendt in 1875 by the cura of San Christobal Cahcoh in Guatemala. The second manuscript, *PLATICAS DE LA HISTORIA SAGRADA EN LENGUA CACCHI*, was written in the seventeenth century. Both manuscripts form part of the Daniel Garrison Brinton Collection in the Museum library.

LECTURE COURSES

The Saturday afternoon course of illustrated lectures for the public and the Wednesday afternoon course for the schools of the City will be continued during the coming fall and winter.

The lectures of the Saturday program are as follows.

- November 10. Alexander Hamilton Rice, Some Notes and Results of Several Journeys of Exploration in the Northwest Amazon Basin.
- November 17. Henry E. Crampton, Among the Islands of the South Pacific Ocean.
- November 24. Charles Wellington Furlong, Tripoli, The Gateway of the Sahara.
- December 1. James Henry Breasted, The Story of the Pyramids.
- December 8. Donald B. MacMillan, The Crocker Land Expedition and the Smith Sound Eskimo.
- December 15. Roy Chapman Andrews, A Trip through China.
- January 5. Lecture to be announced.
- January 12. Joseph K. Dixon, The Indians of North America.
- January 19. Christian Leden, Among the Eskimo of Greenland and Canada.
- January 26. Fred. A. Pape, Intimate Reminiscences of Equatorial East Africa.
- February 2. George A. Chase, Recent Excavations in Asia Minor: Sardis, Miletus, Didyma.
- February 9. Joseph M. Rogers, How Man Learned to Write.
- February 16. Lecture to be announced.
- February 23. Langdon Warner, Early Chinese Sculpture.

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- March 2. Alexander Scott, The Art of India and Tibet.
March 9. Charles Eastman, Indian Wit, Humor, Poetry and Eloquence.
March 16. Stephen Langdon, Babylonian Music and Temple Worship.

The lectures of the school program are as follows.

- November 7. Roy Chapman Andrews, The Chinese at Work and at Play.
November 14. Mrs. Joseph M. Dohan, Social Life in Crete 2000 B. C.
November 21. Charles Wellington Furlong, Adventures among the Big Patagonians.
November 28. Mrs. Alice McKay Kelly, The People and Customs of the Philippines.
December 5. Stephen B. Luce, Jr., The Gods of Ancient Greece.
December 12. Theodoor de Booy, The Virgin Islands (Formerly the Danish West Indies).
December 19. Pe-ahm-e-squeet (Floating Cloud), My Childlife among the Ojibwas.
January 9. Herant Baron Matteossian, Constantinople.
January 16. Joseph K. Dixon, The Indians as Hunters and Warriors.
January 23. Christian Leden, Manners and Customs of the Modern Eskimo.
January 30. Alanson Skinner, Across the Florida Everglades.
February 6. Joseph M. Rogers, The Pyramids and Temples of Egypt.
February 13. Henry Collins Walsh, Morocco and its People.
February 20. Wm. Curtis Farabee, My Life Among the Wild Tribes of the Amazon.
February 27. Clarence P. Bill, The Young People of Ancient Greece.
March 6. Charles Eastman, An Indian Childhood.
March 13. Walton Brooks McDaniel, Modern Reminders of Ancient Italy.
March 20. Walton Brooks McDaniel, Ancient Ghosts and Gods.
March 27. Joseph M. Rogers, Native Life in Egypt.

FORM OF BEQUEST

I give and bequeath to the trustees of the University of Pennsylvania the sum of.....dollars, in trust for the uses of the University Museum. (Here specify in detail the purposes.)

MEMBERSHIP RULES

There are four classes of membership in the Museum:

Fellows for Life, who contribute.....	\$1,000
Fellowship Members, who pay an annual contribution of.....	\$100
Sustaining Members, who pay an annual contribution of.....	\$25
Annual Members, who pay an annual contribution of.....	\$10

All classes of members are entitled to the following privileges. Admission to the Museum at all reasonable times; an invitation to any regular reception given by the Board of Managers at the Museum; invitations and reserved seats at lectures; the Museum Journal; copies of all guides and handbooks published by the Museum and free use of the Library. In addition to the privileges to which all classes of members are entitled, Sustaining Members and Fellows receive, upon request, copies of all books published by the Museum.



THE MUSEUM JOURNAL

VOL. VIII

PHILADELPHIA, DECEMBER, 1917

No. 4

THE ECKLEY B. COXE JR. EGYPTIAN EXPEDITION

MEMPHIS.

IN the MUSEUM JOURNAL for June, 1915, a brief account was given of the preliminary work of the Eckley B. Coxe Jr. Expedition to Egypt. It was there stated that, through the courtesy of the Egyptian Government, the Museum had secured the concession to a part of the site of Memphis. As this had been either the capital or one of the chief cities of Egypt throughout its history, important archæological results were to be expected from the site. The Expedition began work in March, 1915, and the results have fully justified this expectation. The whole site had already been granted to a representative of the Roumanian Government, but as the war prevented him from undertaking the work, the Egyptian Government gave to the Expedition the choice of any portion of the site. In selecting the area south of the modern road near the colossi of Rameses II, the Director of the Expedition was influenced by a discovery made there the previous year. Mr. C. C. Edgar, the Inspector of Antiquities for Lower Egypt, had cleared a small room near the center of the principal mound which had been exposed by natives digging in the ruins. This room had painted walls bearing the cartouches of Merenptah, and contained two slender limestone columns unique in having inscriptions inlaid in faience. The character of the decoration indicated that the room formed part of some royal structure. Our excavations have proved the building to be the royal residence of Merenptah, the Pharaoh who ruled from 1225 B. C. to 1215 B. C.

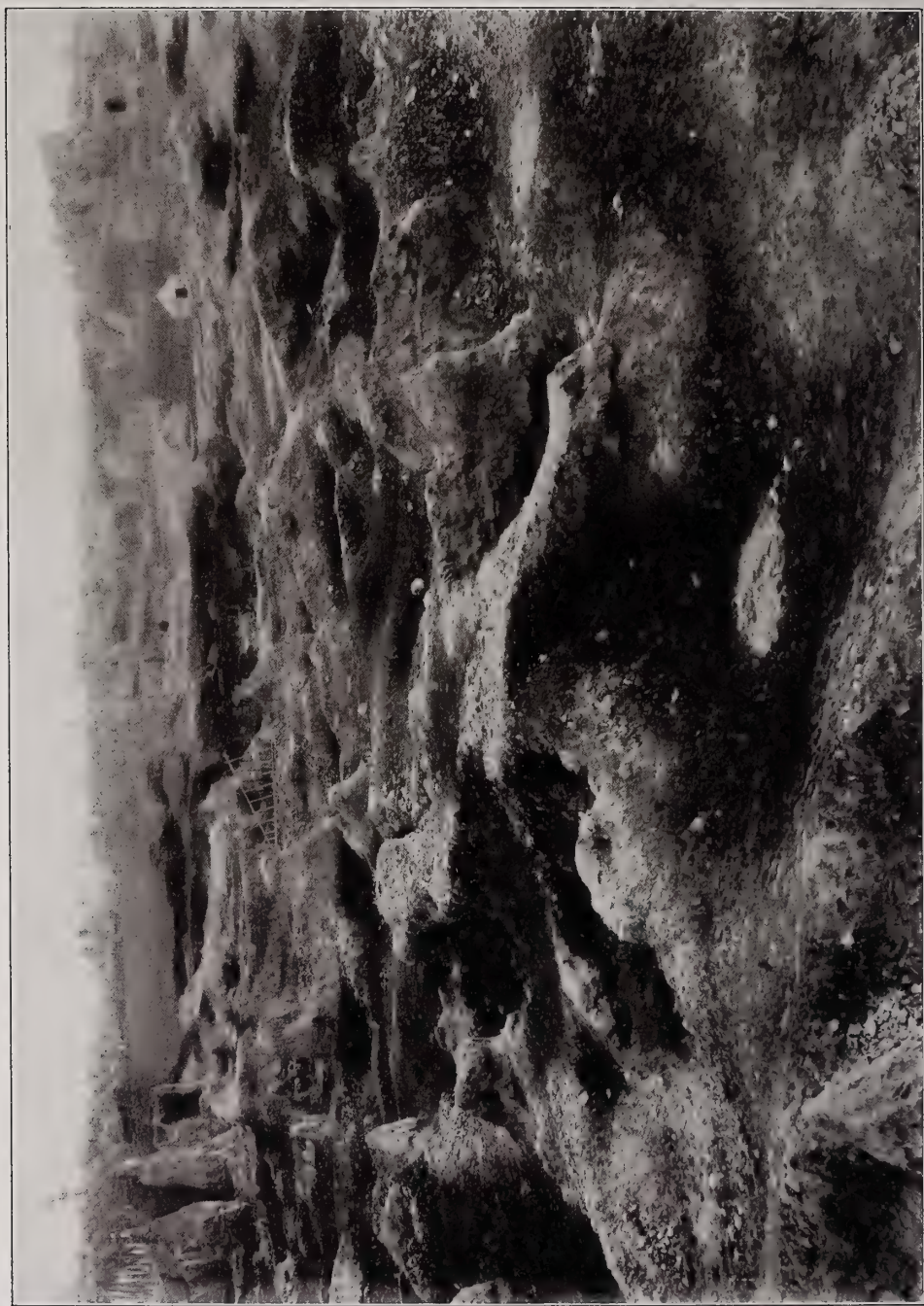


FIG. 77.—Memphis. Looking south over the site of the palace of Merenptah, showing the appearance of the surface before excavations commenced.

Like so many other sites in Egypt, the mound beneath which the palace lies buried has been much dug over by natives from the surrounding villages, who use the earth from the ancient disintegrating mud brick walls as fertilizer for their fields. Figure 77 gives a good idea of the general appearance of the mound as they had left it and before the Expedition began its work. The masses of masonry visible on every hand belong mainly to the Ptolemaic Period (B. C. 332-30). Above these had stood a large Roman city which has been almost entirely carried away. Fortunately this spoliation has not penetrated to earlier levels, and the ruins of the palace of Merenptah are preserved at a depth of from 16 to 18 feet below the level visible in the photograph. The building was constructed with massive walls of sun-dried brick, but all the columns and framings of doors were of limestone.

Thus far only a portion of the eastern wing of the palace has been uncovered (see Fig. 78 and the plan, Fig. 79). Apparently this was the principal wing of the building, with splendidly decorated suites of state apartments at either end of an open court. The court (19 on the plan), 80 feet wide and 175 feet long, was surrounded by a colonnade of thirty-four columns. Its whole area was paved with irregular blocks of limestone, the floor under the roofed colonnade being raised slightly above the open central portion. The columns were built up of drums resting on the usual large rounded bases and had capitals of the open papyrus type. Around each base was an incised inscription giving the two cartouches of the king with his attributes, no two bases having exactly the same inscription. On each shaft were four similar vertical inscriptions extending from the bottom of the capital to a band of reliefs midway of the shaft and thence down to the base. The reliefs, which varied with each column, usually depicted Merenptah performing rites before Ptah, the patron divinity of Memphis. The bottom of each shaft and capital was decorated with sepals in relief. The background of the shafts seems to have been colored a rich yellow, and the inscriptions were filled in with bright blue. The walls of the court were coated with mortar over which was a hard white stucco decorated with regular panels and patterns in red, yellow and blue. The entrance to this court seems to have been on the west side through a small doorway which was approached by a narrow corridor (24-25) with two turnings. This corridor in turn apparently led from an outer court (26), which has not yet been entirely



FIG. 78.—The state apartments in the palace. Looking southeast across the court, vestibule and throne room.

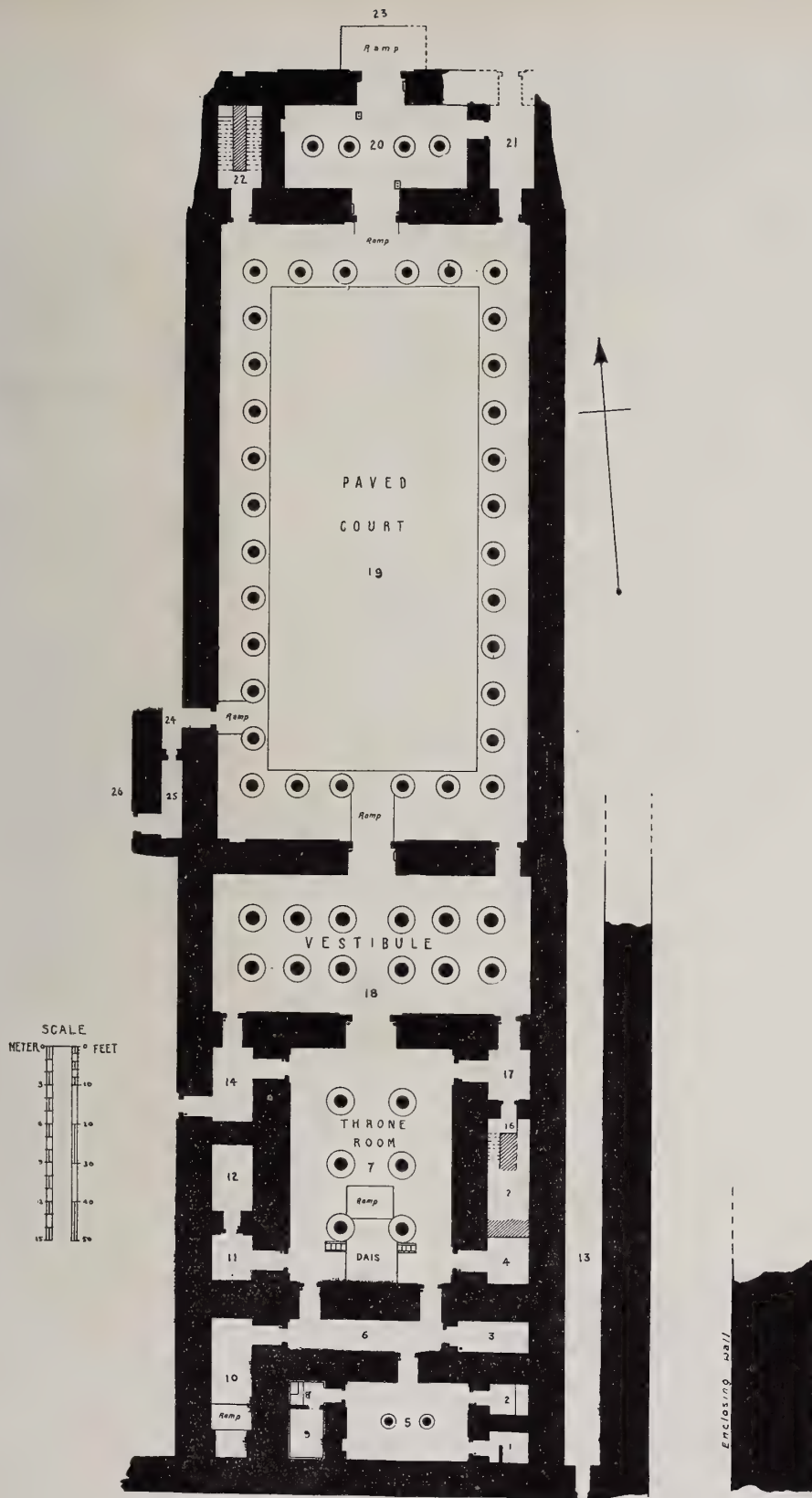


FIG. 79.—Plan of the portion of the Palace of Merenptah thus far excavated.

cleared. It had an elaborate colored stucco pavement, and in the débris were several capitals of small papyrus columns which may have belonged to it.

In the center of the south side was a great doorway 10 feet wide and about 23 feet high. The door framings were of limestone decorated with relief and faience inlay. On the lower part of each jamb was a panel showing a procession of Nile gods bearing vases of water from different lakes and canals as offerings to the king. The figures were in relief, but the inscriptions and the offerings were in faience. Two vertical inscriptions of similar content to those on the columns in the court occupied the remainder of the height of the jambs. These inscriptions were inlaid with faience. The lintel of the door consisted of a large panel crowned with a cornice. On the panel were gilded relief figures of the king in various attitudes before the gods, while the cornice had a row of inlaid cartouches of the king. This doorway, together with a smaller and simpler one near the east side of the court, led into a vestibule (18), which extended the full width of the court. Its roof was supported by twelve columns similar in design to those in the court, but of larger size. All the inscriptions were inlaid in faience, and the figures in the bands of relief on the shafts were overlaid with thick gold leaf. The floor was constructed of sun-dried bricks over which had been a painted stucco pavement similar to those found in the palace at Tel el Amarna.

In the south wall of this vestibule were three doorways. That in line with the large doorway leading from the court was of the same size and similar design. This doorway led into the Throne Room (7). Figure 80 is a view taken from the court looking through the doors of the vestibule into the Throne Room, while Fig. 81 shows the Throne Room from the northwest corner. The two main entrances were closed with heavy wooden doors mounted in bronze and working on bronze sockets sunk in the stone sills. The outer door of the vestibule had a single leaf, while the door into the Throne Room had two leaves. The Throne Room was 41 feet wide and 60 feet long. Its roof was supported by six columns like those in the vestibule, parts of five of them being *in situ*. Of these the one at the southeast corner was the best preserved. The base was a single block of limestone with a horizontal band of inscription inlaid in pale greenish-blue faience. The lower part of the shaft had a row of sepals in relief springing from a broad band of gold. The



FIG. 80.—The state apartments. From the southern end of the court (19 on the plan) looking south through the large vestibule into the throne room. The dais is seen at the back.

alternate divisions of the sepals were colored blue and gold, the gold leaf being laid on over a deep red color. Between the tips of these sepals were large open lotus flowers inlaid in faience. The relief band on the shaft had the usual figures of the king in gold on a blue ground. From the capital to this panel and then down to the bottom were again the four vertical lines of inscription inlaid in faience. The fragments of capitals found in this hall showed that they were like those in the rest of the building, i. e., of the open papyrus type.

The dais, on which had stood the king's throne, was at the southern end of the hall, facing the main entrance. It was a rectangular platform $13\frac{1}{2}$ feet long and $16\frac{1}{2}$ feet wide built in between the two end columns and raised 20 inches above the floor. The column bases formed an integral part of the structure, the sculptured decoration of the platform being carried across their upper surface. From the front the dais was approached by a ramp. The entire surface of both ramp and dais was covered with colored reliefs (Fig. 82). On the dais were four large panels each containing a bound captive,—a negro, a Libyan and a Sardinian, the fourth not yet identified. Between these were smaller panels with a bow in each. The entire group of panels was enclosed within a border of *rekhyt* birds and *neb* symbols, signifying "all nations." On the ramp were six additional panels of captives, representing in all the ten races which Merenptah claimed to have subdued during his reign. This ramp would have been used by the courtiers in approaching the throne, while for the king's especial use there was a small flight of steps on each side of the dais. These steps likewise had colored relief panels of captives and bows.

The walls of the Throne Room were stuccoed and painted in bright colors. Around the base of the wall was a dado of painted niches separated by spaces in which alternated the lotus and papyrus plants, the symbols of Upper and Lower Egypt. Little remains of the walls above this dado, but from fragments here and there still in situ we know that the entire wall was covered with decoration in color, with some of the details picked out in gold. The floor has been destroyed by water; it undoubtedly had a stuccoed covering with painted patterns similar to fragments preserved in nearby chambers.

In the narrow exterior passage (13) to the east were found fragments of a large window, which had probably fallen from the upper



FIG. 81.—The throne room from the northwest. At the left is a part of the vestibule, and at the right the corridor leading to the apartments behind the throne room.

part of the wall of the Throne Room. There were remains also of a similar window on the west side. The windows consisted of a single large slab of limestone about 6 feet wide and 8 feet high. The lower part was pierced with long narrow vertical slots, while the upper part had an openwork pattern of rows of Merenptah's cartouches alternating with *kekher* symbols.

In addition to the main entrance, six other doorways opened from the Throne Room. On the east was a small anteroom (17) from which a flight of steps (16) led to the roof. On the opposite side was a larger anteroom (14) opening both into the large vestibule (18) and to a court or passage to the west. The use of rooms 4, 11, and 12 is not clear. All had colored stucco walls and floors. The doors themselves had inlaid inscriptions running across the lintel and down the sides, and each was crowned with a beautiful cornice on which was the winged sun disc, the disc being heavily gilded and each feather of the outspread wings being inlaid with one or more pieces of faience. The Throne Room, as one would have seen it from the vestibule, must have presented a most splendid appearance. The faint light that came from the slotted windows high up in the walls subdued the brightness of the coloring and gilding and gave an effect of magnificence and of mystery. It was one of the most elaborately decorated and striking halls of which we have any record in Egyptian art.

The doors on either side of the dais opened into a corridor (6) which connected a group of apartments behind the Throne Room (Fig. 83). These apartments were evidently the private retiring rooms of the king on state occasions only, as they are not extensive enough to have been his living quarters. The principal apartment is the hall (5). This had a stuccoed floor, and the roof was supported by two slender inlaid columns. From one corner opened a stone paved latrine (1), with a stone screen covered with symmetrical rows of panels and of *ankhs* and *was* sceptres. The adjoining room (2) had a stone floor and also a wide shelf at one end. On the opposite side of the hall was a stone paved bath (8-9). The entire walls here were lined with slabs of stone covered with regular rows of incised cartouches and the signs for life and happiness. The bath was divided by a low screen wall into two compartments. In the smaller outer one (8) was a rectangular covered catch-basin. Above this had been a shelf, on which presumably the clothing of the king was placed. The inner room was the actual bath room. Here the



FIG. 82.—The sculptured dais on which stood the throne of Merenptah.

water was poured over the bather by slaves and it then flowed out through a channel into the catch-basin, whence it had to be bailed out as the basin had no outlet. At the western end of the passage (6) was a large sleeping apartment, on the floor of which were traces of colored stucco. At the inner end was a deep alcove raised above the floor of the room and approached by a ramp; both the ramp and the niche were paved with stone. In this alcove had stood the couch of the king.

At the northern end of the large open court (19) was another great doorway which was of the same size and character as the one opening into the southern suite of rooms. On the lower part of the jambs was a panel with two Nile gods binding together stalks of lotus and papyrus, representing the union of Upper and Lower Egypt. The remainder of the decoration was like that of the southern door, the lintel being elaborately gilded and inlaid.

The removal of the débris around this door produced some interesting results. It had been noted that the six columns across this end of the court were of smaller diameter than the others. The floor of the colonnade in front of the door and the sill of the opening itself were filled with large blocks of stone. Several of these were parts of the great lintel and cornice blocks. Among them, however, were a number of fragments of a thick horizontal slab of stone with an inscription of Merenptah along one edge. From the position of these fragments it was evident that they had fallen from above the opening. When the pieces were fitted together the upper surface was found to be smooth except for two circular roughened places equally spaced, suggesting that columns had rested upon them. Among the fragments were found four small inscribed bases, two in the débris of the doorway, one in the colonnade, and a much broken one just within the vestibule. The slab had been of a width nearly equal to the thickness of the wall and extended entirely across the opening. There was here quite clearly an upper loggia or balcony in the thickness of the wall above the doorway, looking out over the court. A small staircase (22) west of the vestibule and opening from the court no doubt gave access to it. While thus far no similar balcony has been found in Egypt, there are many reliefs from tombs and temple walls which give a clue to the use of such a balcony. On these reliefs the king is shown appearing on an open balcony called the *semshed* above the ground floor. From this he showers gifts on his courtiers in the court below, or inspects the prisoners and spoils after a campaign.



FIG. 83.—The private apartments behind the throne room. Under the mat covering is the royal bath room, and next to it the stone paved alcove in which stood Merenptah's couch.



FIG. 84.—One of the panels on the South Portal. Merenptah before Ptah of Memphis.

The vestibule (20) was considerably smaller than that in front of the Throne Room. East of it was an anteroom which opened into it as well as into the court (19) and another court to the north. On the west was the staircase to the balcony. Only four small columns carried the roof of the vestibule, but these were as richly decorated as those in the Throne Room.

Outside the eastern wall of the southern group of chambers a



FIG. 85.—Votive stela from Memphis.

long narrow passage (13) was found to which no entrance from the interior of the building has yet been discovered. At its southern end a door connected apparently with a similar passage along the south façade of the palace. The wall outside this passage was more than 12 feet thick and was the outer wall of the main structure. To the east of this was a space 21 feet wide with a great wall 21 feet thick beyond it. While only a small portion of this wall has been

followed, it probably was part of the boundary wall of the palace precinct and will doubtless prove to be a continuation of the great wall on the south in which was found the "South Portal." This entrance was cleared during the first season's work. It was a rectangular vestibule, the outer wall of which had been torn down and reconstructed at some later period. The sides of the door leading into the interior of the enclosure were still in situ to the height of



FIG. 86.—Statuette of one of the High Priests of Memphis.

the opening and the two limestone columns which supported the ceiling were also practically complete, but cracked and leaning badly. The columns and jambs were covered with painted and gilded reliefs. Figure 84 is one of the panels on the east side of the door. It shows Merenptah standing before the shrine of Ptah, who promises him many years of reign.

The palace apparently extends to the north and west for a

considerable distance. Probably its northern wall bordered on the enclosure of the Temple of Ptah which lies beneath the fields on the north side of the modern road. Its western limits may be looked for somewhere in the neighborhood of the sphinx and the colossi, which evidently mark the position of a roadway.

Immediately after the death of Merenptah the palace was used for other purposes and several of the doorways were blocked up with bricks. Not many years afterwards a great fire swept the entire building, destroying all the woodwork and badly splintering the columns and floor slabs. At this time several of the columns gave way and were buried beneath the débris from the fallen roof. The columns which remained standing projected from the débris and were soon carried away to be utilized in other structures. Over the heap of unrecognizable ruins five distinct towns were built during subsequent periods, the middle one of which was dated by an inscription to the reign of Ahmose II, the last Pharaoh before the Persian occupation in B. C. 525. Above this again are Ptolemaic and Roman strata.

The destruction of the building by fire precluded any hope of finding any of the elaborate furniture which it once contained.

In fact from the palace itself only three objects other than bronze door sockets and hinges were found. In the niche in the chamber (5) behind the Throne Room was a large alabaster pitcher, crushed by the fall of the roof. A smaller pitcher of the same shape and material was found in the northern vestibule (20), while in the little room (17) leading from the Throne Room to the roof was a small faience ink pot bearing the name of a local administrative official. Near the "South Portal," however, were a large number of votive stelæ and parts of statues. A typical stela is shown in Fig. 85. In the upper register the suppliant makes an offering of fruit to Osiris, while below his wife and children kneel in prayer. These stelæ and other fragments were below water level, which during high Nile now



FIG. 87.—A sculptor's model. Head of a young noble. Memphis.

risers to a height of several feet above the floor level of the palace. All the statues had been broken and mutilated before finding their way into the débris. The excellent little seated figure of a High Priest of Memphis shown in Fig. 86 is an example. This was in several pieces and parts were missing, the head having been a separate piece fastened to the body by a dowel. The long inscription on the lap is complete. Among a number of sculptors' models was the beautiful head of a young man (Fig. 87). But by far the most important piece of sculpture found was the quartzite head sup-

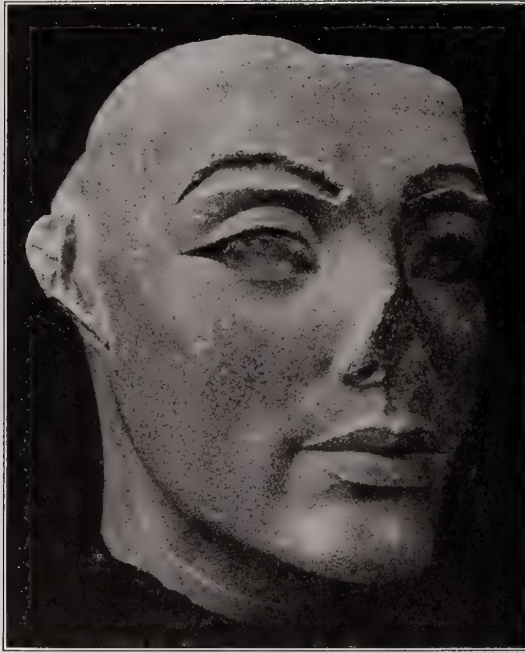


FIG. 88.—A royal head. Family of Akhnaton
(B. C. 1375-1350). Memphis.

posed to be a portrait either of Akhnaton or of a member of his family (Fig. 88). This is slightly less than life size. The crown is missing and the ears and nose have been mutilated, but the delicate modelling of the mouth and cheeks, with the appearance of dignity and calm make it one of the finest pieces of Egyptian sculpture.

In the stratum assigned to Ahmose II there was found the cache of gold and silver jewelry shown in Fig. 89. The little figure of the boy Ptah at the top is of solid gold. Below it is an Osirid figure of silver covered with gold. The next is a necklace of agate beads, the ram's head pendant being an exquisite specimen of the

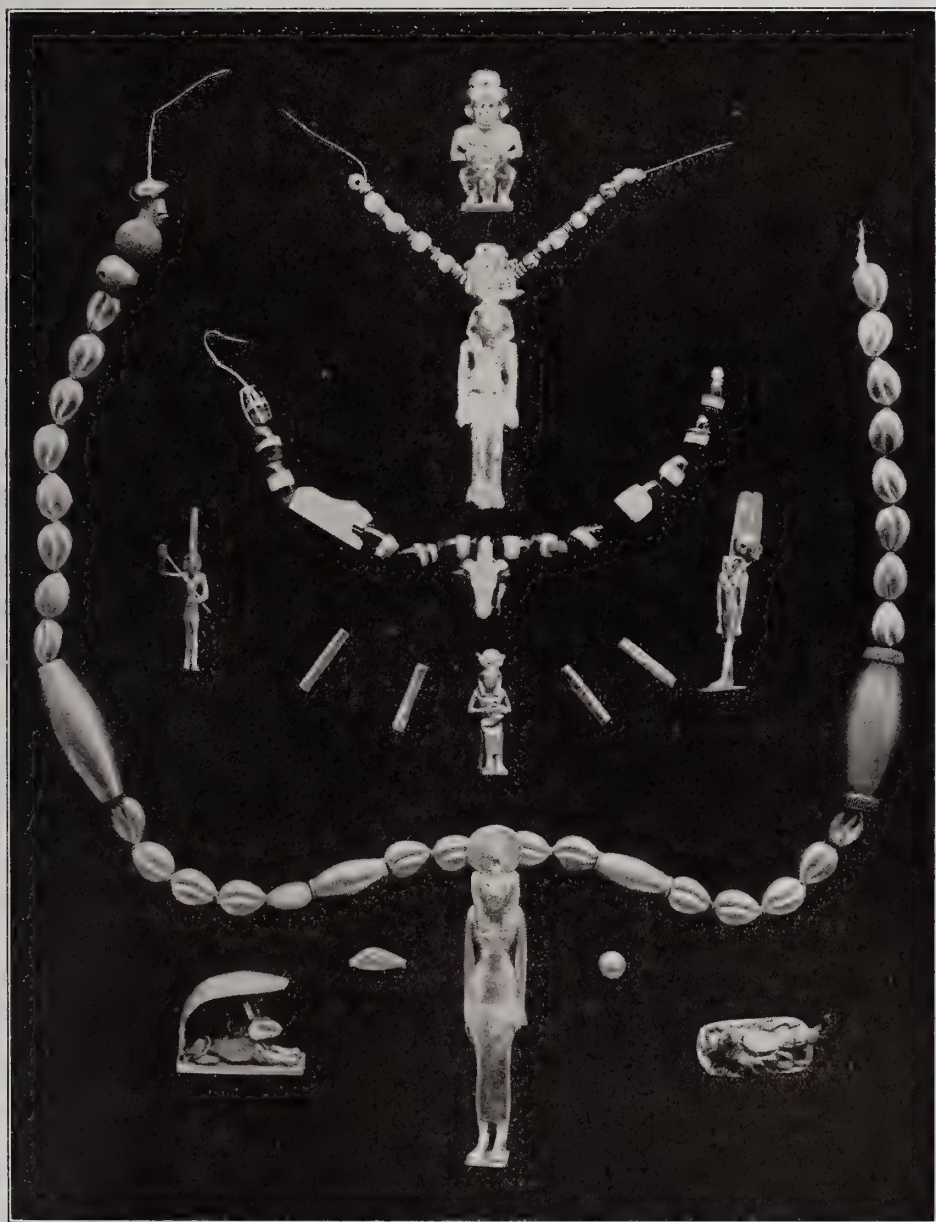


FIG. 89.—The gold jewelry found in a *cache* at Memphis in the débris of the Ahmose II stratum.

gem cutter's art. The smaller separate deities are all of gold and of remarkably delicate workmanship. The large necklace is composed of a series of gold shells with a large gold barrel on one side and a chalcedony barrel capped with granulated gold tips on the other, while the pendant is a figure of Sekhmet in solid gold. In the lower corners are two unique pieces. At the left is a ram wearing the sun disc lying beneath a palm tree. At the right is a scorpion complete in every minute detail. It has a human head crowned with horns and sun disc, and into the body is set a beryl. Both these gems are electrum.

DENDEREH.

As excavations at Memphis can be carried on to advantage only during the spring months, owing to the annual Nile flood, it was necessary for the Expedition to have an alternative site on which work could be done during this flood season. All the Delta and valley sites were, for the same reason as Memphis, impossible. Several sites in Upper Egypt were considered, and Denderah finally decided upon. This site had been reserved by the Government, but after consideration they kindly divided the area and granted the Museum the extensive necropolis behind the ruins of the city, retaining temporarily the Temple and city site. Work began here in the fall of 1915 and has been continued each successive winter.

The character of the work at Denderah is very different from that at Memphis. Besides being a dry site, there is but one stratum lying below the modern surface. The débris is much lighter and in consequence work moves more rapidly. The disposal of the débris presents no difficulties, as it can be thrown back on a finished area as the work progresses. Figure 90 shows the appearance of the undisturbed surface near the Seventh Dynasty mastabas of Merra and Beh, which rise in the background. Work was begun at this point and carried toward the east and west, as this area promised material of the little known period between the Old and Middle Empires.

As the excavation proceeded it was found that the use of the Denderah necropolis covered a long period. Beginning with the Second Dynasty (about B. C. 3000), there has been found a nearly complete sequence of periods down to Moslem times.

A great mass of material has been collected, and it will be possible to arrange this material in chronological order.

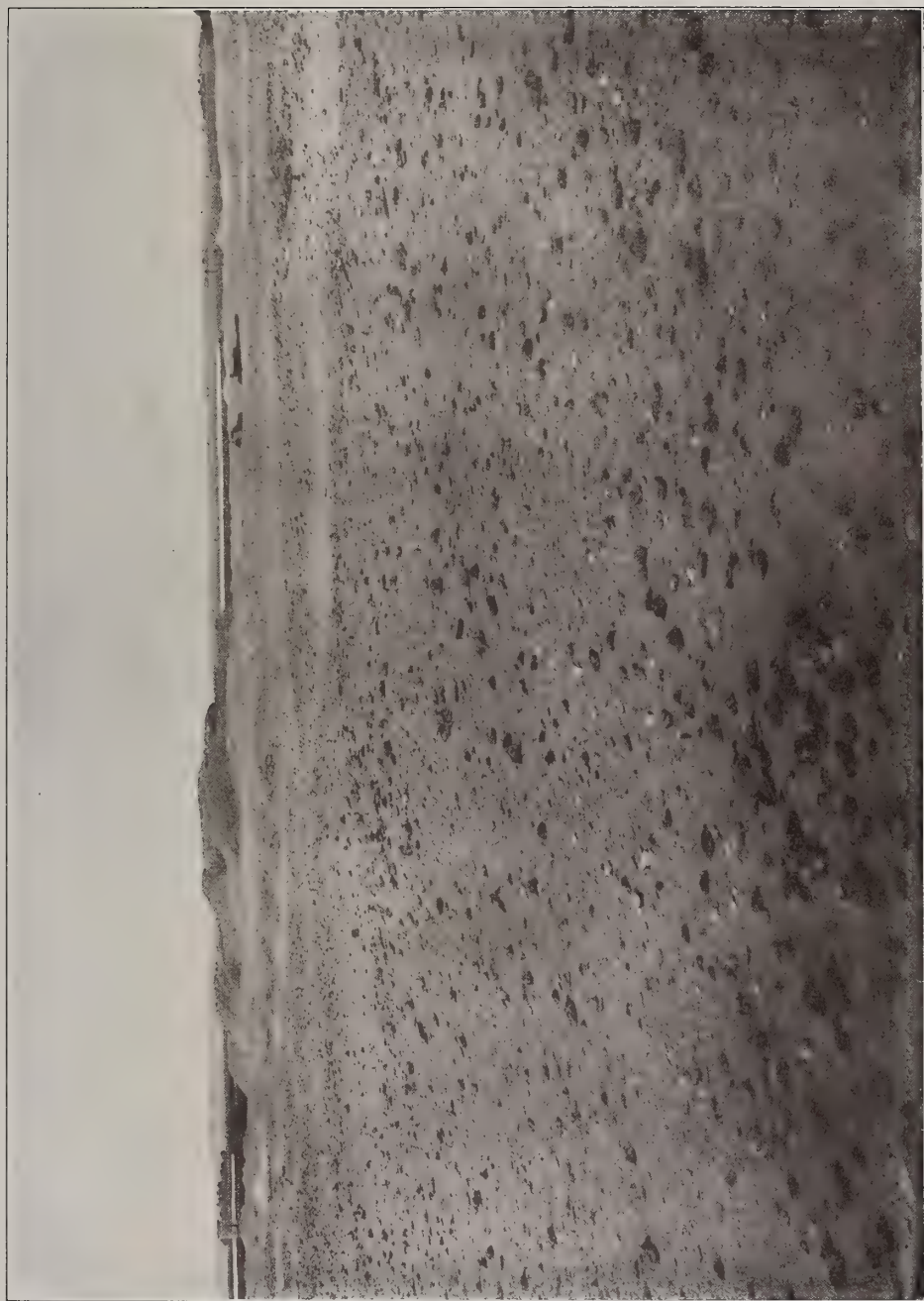


FIG. 90.—The necropolis of Denderéh. Showing the appearance of the surface prior to excavation. In the background are two mastabas of the VII Dynasty (ca. B. C. 2450).

Such a site as Denderah involves a much greater amount of registration than a town site like Memphis, and a few remarks on the field methods employed by the Expedition will be of interest. As already stated, the first work began near the mastabas shown in Fig. 90 and the workmen were placed in consecutive squares. It was found at once that the quantity of objects appearing demanded some more comprehensive system of numbering than the usual method of numbering in sequence of discovery. The entire area was then surveyed and laid out in regular numbered blocks, 180 by



FIG. 91.A— typical offering niche of a group tomb of the Seventh to Tenth Dynasties (B. C. 2475–2160). At the right are portions of the burial shafts. Denderah.

200 metres, the even numbers to the west of a medial north and south line, and the odd numbers to the east. Each block was then subdivided into ninety squares, which were numbered in tens from 010 to 990 consecutively.

The entire area is being mapped on a large scale on a series of sheets, of which the example given is one of forty already completed. This shows six of the small squares. The periods are indicated in color. Where necessary, as in the case of the large mastabas, separate plans and detailed drawings are made. A card catalogue is kept of all discoveries made.



FIG. 92.—The Sesostri necklace, composed of selected amethysts and carnelians. The large beads have the names of Sesostri I (B. C. 1980–1935) inscribed upon them. Denderah.



FIG. 93.—Stela of Beb and his wife Iamyt. Denderah.



FIG. 94.—Elaborate bead covering on a mummy from Denderah. Period ca. B. C. 300.



FIG. 95.—One of the sheets of the map of the necropolis of Denderah.



FIG. 96.—The office of the Expedition at Denderah.

THE MUSEUM JOURNAL

Figure 96 shows the interior of the office of the Expedition at Denderah. As each grave is recorded in the field, the objects are left by its side. At the close of the day the man by whom the grave had been cleared brings the objects to the court of the Expedition house. Next morning they are taken into the recording room, near the office, and then checked off with the tomb cards, and all objects, such as pottery, etc., drawn to scale on the same size cards. These cards are arranged and filed with guide cards having the main block index number and the square number, so that in a moment any detail in the great mass of material is available for reference. Such objects as are to be preserved for the Museum are given an additional registry number, which is also entered on the cards. When this is finished the full description, with a drawing where necessary, of these registered objects is entered in large duplicating registers.

C. S. F.

FORM OF BEQUEST

I give and bequeath to the trustees of the University of Pennsylvania the sum of.....dollars, in trust for the uses of the University Museum. (Here specify in detail the purposes.)

MEMBERSHIP RULES

There are four classes of membership in the Museum:

Fellows for Life, who contribute.....	\$1,000
Fellowship Members, who pay an annual contribution of.....	\$100
Sustaining Members, who pay an annual contribution of.....	\$25
Annual Members, who pay an annual contribution of.....	\$10

All classes of members are entitled to the following privileges. Admission to the Museum at all reasonable times; an invitation to any regular reception given by the Board of Managers at the Museum; invitations and reserved seats at lectures; the Museum Journal; copies of all guides and handbooks published by the Museum and free use of the Library. In addition to the privileges to which all classes of members are entitled, Sustaining Members and Fellows receive, upon request, copies of all books published by the Museum.

THE MUSEUM JOURNAL

Vol. VIII

1917

SUPPLEMENT



BAS-RELIEF ON A COLUMN EXCAVATED IN 1917 AT MEMPHIS. THE SUBJECT SHOWS MERENPTAH, ACCOMPANIED BY HIS LEOPARD, SMITING THE LIBYAN AND THE ETHIOPIAN
THE ECKLEY B. COXE JR. EXPEDITION TO EGYPT

REPORT OF THE DIRECTOR FOR THE YEAR 1917

To the Contributing Members of the University Museum.

The Museum started the year which is now coming to a close with a good outlook. There were many grounds for encouragement and we were able to look forward with continued confidence to a year of increased usefulness and larger activity. The loss sustained through the death of Mr. Coxe was in a measure repaired by the generous provision made by him in his will. The Museum is at the present time benefiting by this provision because it has within the year come into possession of Mr. Coxe's bequest.

The City of Philadelphia for the first time made an appropriation from the public funds to supplement the funds of the Museum. The \$25,000 appropriated by the City was given to sustain and reinforce a work already established and an educational institution which had been created for the welfare of the City without expense to itself. Whatever moneys the City may see fit from year to year to appropriate for this purpose is to be regarded as an investment on behalf of public education, because the collections acquired by the Museum either through these funds or through its own funds or through private gift are a part of the permanent educational equipment of the City and are free to the public at all times. These collections are increasing in value rapidly from year to year.

As we started upon the year 1917 Dr. Charles C. Harrison was elected President and the Board of Managers was strengthened by the election of Mr. C. Emory McMichael to fill the vacancy made by the death of Mr. Coxe.

The political and economic events of the year both at home and abroad have been entirely unfavorable to constructive work in the Museum. Nevertheless it will be seen from this report that it has been one of the most successful years in the Museum's history.

There have been several resignations. Mr. E. W. Clark, for some years a Vice-President, resigned from the Board after a long period of service during which he gave generously to the funds of the Museum.

Mr. B. Franklin Pepper, for twelve years Secretary and a member of the Board, resigned because he was about to enter the military service of the country.

Mr. George G. Heye resigned because, having acquired a leading interest in a Museum in New York, he withdrew the collections which had been deposited by him in this Museum for eight years and will now devote all of his time to the development of the Museum of the American Indian.

The staff of Curators has been maintained at the same strength as last year except that Mr. H. U. Hall, the Assistant Curator of the Section of General Ethnology, entered the military service.

The Museum was kept open every day during the year and 53,594 persons visited the exhibitions.

The course of public lectures on Saturday afternoons was continued until March and was resumed again on the 10th of November, when Dr. Alexander Hamilton Rice gave a very interesting description of his South American explorations. On the same occasion the newly installed South American collections assembled by Dr. Farabee during his three years' exploration in the Amazon valley were opened to the public. These exhibitions were seen and admired on that day by one thousand people. During the season of 1916-17 20,000 people attended the lecture course.

Teachers and pupils of the public schools have availed themselves of the Wednesday afternoon lectures which are found by the teachers to supplement in a way satisfactory to them the work of the schoolroom.

In April last a special exhibition was arranged, of which the members of the Museum had a private view, and it was kept open to the public in its entirety for about three weeks. This special exhibition consisted of a number of Chinese works of art of a kind supplementary to the Museum's collections; it also contained a series of European tapestries which were lent by the firm of P. W. French & Co. of New York. Three of these tapestries have since been removed and seven of them still remain hanging upon the walls of Harrison Hall as a loan.

The Eckley B. Coxe Jr. Egyptian Expedition continued its work during the year at Memphis with a short season at Denderah. The reports received from Mr. Fisher, the Curator of the Egyptian Section, who is in charge of this expedition, show that at Memphis the expedition has undertaken a very important and highly creditable task of clearing the ruins of the Royal Palace of one of the ancient Pharaohs. Its foundations are buried at a depth of from eighteen to twenty feet in the débris, and the ruins of buildings of

three later periods stand at different levels above it. As Memphis was the capital of Egypt and a city of first importance from its very earliest times until its latest, it was natural to expect that a royal palace at that place would be a structure of special interest and grandeur. It might be expected that discoveries would be made during these excavations which would enrich the collections in the Egyptian Section of the Museum. The discoveries of the Eckley B. Coxe Jr. Expedition have justified these expectations. Although the work is necessarily slow owing to the great depth and the great mass of material to be removed, we may feel satisfied that the results have repaid, in new collections for the Egyptian Section of the Museum, the money and labor that have been involved.

A large number of the objects discovered have been assigned by the Cairo authorities to the University Museum. These are at present stored in Egypt and will not be shipped until shipping is safer.

Although the present is obviously no time to begin building operations, it is proper that we should keep in mind at all times the needs of the building and that we should look forward to the time when conditions will be more favorable for the development of this part of our work. In this forward outlook the needs of the Egyptian Section are in the foreground. The new collections which the expedition now at work in Egypt is securing cannot be kept in the rooms of the Egyptian Section, nor is there any space in the present building which will be adequate to take care of these collections and make them properly available for the scientific and educational uses of the Museum. The only way in which these collections can be provided for will be the construction of a new wing for the Egyptian Section.

Although there has been no official expression on the part of the Board of Managers concerning these needs, I believe that I am justified in saying that the members of the Board individually and collectively recognize these facts and share the feeling that a new wing for the Egyptian Section bearing the name of the late President and constituting a suitable and dignified memorial to him and his work is one of the most important and agreeable tasks of the future. It is equally a duty to prosecute with vigor and continuously while the opportunity lasts, the assembling of collections so that the Egyptian Halls and their contents will together constitute a monument not inferior to anything of its kind in this country and

one that will be in all respects worthy of the name of Mr. Eckley B. Coxe, Junior and his work.

An expedition was sent to China in February in charge of Mr. C. W. Bishop, Assistant Curator of the Section of Oriental Art, for the purpose of proceeding to the ancient capital of Sian-fu, for archæological investigations. After his arrival in China several circumstances, including a revolution and floods, prevented Mr. Bishop from reaching his objective. In the meantime he reported that owing to the increased price of silver his estimates for expenses would have to be increased forty per cent. Owing to this unexpected increase and owing also to the general financial conditions created in this country by the war, it was decided in November to recall Mr. Bishop to this country and to withdraw the Chinese Expedition for the present from the field.

Letters have been received from time to time from Mr. Alexander Scott in India. Mr. Scott, as will be remembered, has been employed on special work for the Museum in assembling collections of the early art of India. The collections obtained, which consist of many examples of early sculpture and later metal work, are stored in Bombay. Mr. Scott is planning to come to America himself in the spring and to bring these collections with him.

Mr. Louis Shotridge continued throughout the year his work of collecting for the Museum in Southeastern Alaska. Mr. Van Valin was sent in June into the Arctic regions of Northern Alaska to make collections among the Eskimo there. He is spending the winter at or near Point Barrow. These two Alaskan expeditions have been provided for by the generosity of Mr. John Wanamaker, Vice President of the Board of Managers.

Dr. Stephen Langdon, Reader of Assyriology at Oxford University, who, having obtained a leave of absence from Oxford, was appointed Curator of the Babylonian Section of the University Museum for the year. He was given permission to return to Oxford in September. During the year Dr. Langdon catalogued and made accessible for scholars about 6,000 tablets in the collections obtained by the University's expeditions to Nippur some years ago. In addition to this he helped students and scholars from the University of Pennsylvania, Bryn Mawr College, Columbia University, the University of Chicago and the General Theological Seminary of New York to make investigations and studies on their own behalf. He also gave instruction to these various students and scholars in

his own special field. In addition to these labors he prepared from tablets in the Museum three volumes of texts and translations which were published by the Museum. He also prepared several articles for the MUSEUM JOURNAL dealing with tablets of special interest in the Babylonian Section of the Museum.

The most important single acquisition made during the year is the large Chinese sculpture which now stands in Harrison Hall opposite the entrance and which bears upon the pedestal the name of Mr. James B. Ford, the donor. Mr. Ford generously gave all of the money to acquire this magnificent piece of sculpture.

Other gifts of objects have been received from Dr. H. C. Wood, Dr. Charles D. Hart, Col. Joseph U. Crawford, Samuel P. Hanson, J. Maxwell Bullock, Miss Lydia T. Morris, Miss Alice M. Freeman, Miss Florence Sibley, Mrs. J. William White, Mrs. Westray Ladd, Miss Helen M. Campbell, Mrs. Hampton L. Carson, Miss Frances A. Roberts, Miss Elizabeth Lowry.

The Library of the Museum has received from Mrs. Charles Brinton Coxe the set of Curtis' *North American Indian* which was the property of the late President, Mr. Eckley B. Coxe, Jr. The Library has also received from Mr. Charles P. Bowditch a reproduction of the MS dictionary of the Quiche Language of Guatemala.

Loans have been received from Mr. Hiram W. Hixon, Mr. John B. Stetson and Mrs. J. Kearsley Mitchell.

The purchases made during the year from the general Expedition and Collection Fund have been \$81,051, distributed through all sections of the Museum. The Section of Oriental Art, in addition to Mr. Ford's gift of the fine Wei Dynasty statue, has acquired a very fine example of an ancient Chinese rug and sixty-six additional porcelains from the Morgan collection. The collection of Persian art was also increased by some textiles and potteries and bronzes.

The Section of Greek and Roman Art acquired the fine grave stele of the Fourth Century B. C., together with a number of supremely fine examples of painted Greek vases.

In the American Section acquisitions were made extending from Mexico to the Arctic and including a very important collection of Mexican jade and gold ornaments.

The collections in the Babylonian Section and the Section of General Ethnology have also been enlarged during the year by purchases, while the Library has continued to grow by a careful

selection of the standard works which relate directly to the activities of the Museum.

During the year new members were elected as follows. Four Fellowship, nineteen Sustaining and one hundred and sixty-two Annual.

It can be said without reservation with regard to the acquisitions made during the year by gift and by purchase, that these are not surpassed in interest or importance by any former year in the Museum's history and are equaled by only one or two.

We have lost some of our workmen and some of our trained assistants. One of the curators, Mr. H. U. Hall, is in the army and five of the workmen and office assistants have gone into Government employ for higher pay. We will not attempt at this time to replace these people, some of whom have received special training for their posts. Their loss means that the work will be harder for those who remain and also that some of the work will not be done, but we intend to manage in such a way during the coming year that the work will be adequately taken care of and so that the collections shall not suffer.

These losses in the personnel which I have mentioned are a direct result of the war, but, everything considered, the Museum has fared very well in this respect.

In other respects also the interests of the Museum are likewise directly affected. At the same time that funds from private sources are necessarily more restricted, the cost of many of the materials needed in the Museum has risen greatly in some instances. In other instances these materials cannot be procured at all. The most serious example of this kind which we have to contend with is the increased cost of exhibition cases. This has been so marked that during the last year we have had no new cases at all, although these were much needed in the installation of the new collections.

A fourth condition which comes into the closest possible relation with our work is the great scarcity and increased cost of all good works of art of every kind from all parts of the world. The objects in which the Museum is interested afforded by the markets of the world since the war began have been very much less in number than in the years immediately preceding. During the last three and a half years the prices of all such objects have risen in a striking manner. The few things that have changed hands in the sales in Europe during this past summer have fetched higher prices than had

ever been fetched before. This, of course, is exactly the condition that might have been anticipated as a result of the war, although it is exactly the reverse of what most Museums expected.

Whatever may be the difficulties, it is not the purpose of the University Museum to relax its efforts during these times, but rather to increase its exertions on behalf of the interests that are represented in its activities. There never has been a time when the value and usefulness of the Museum and its work have been more apparent than today. While the larger and necessary tasks for which the Government of the country is responsible and in which everybody shares, are being carried forward towards a successful conclusion, the Museum will continue to do its part on behalf of education and the public welfare. It will continue to provide, among other things, the best and most effective form of relaxation from the strain to which everyone will be subjected in the months and years that lie in the foreground of our experience.

G. B. GORDON,
Director.

GIFTS AND LOANS
1917

GIFTS

- J. MAXWELL BULLOCK
Native drum from Hayti
- MISS HELEN B. CAMPBELL
Two decorated calabashes from Brazil
- HAMPTON L. CARSON
Painted tapa cloth from Samoa
- MRS. HAMPTON L. CARSON
Blackfoot Indian skin dresser
- JOSEPH URY CRAWFORD
Suit of Japanese armor
- MISS ALICE M. FREEMAN
Greek vase
Greek figurine
- SAMUEL P. HANSON
Two hammocks from the West Coast of Africa
- CHARLES D. HART
Suit of Japanese armor
Carved dragon from China
Peking *Gazette*
- ALFRED HENDRICKSON
Stone axe from New Jersey
- MRS. WESTRAY LADD
Fifty-nine Indian baskets
- MISS ELIZABETH S. LOWRY
A Soudanese beaded dress
- MISS LYDIA T. MORRIS
Eleven pieces of Russian enamel work
One piece of Roman glass
- MISS ELIZABETH C. ROBERTS
Feather robe from South America
- MISS FLORENCE SIBLEY
Egyptian amulets and scarabs
- MRS. J. WILLIAM WHITE
American pottery
Italian pottery
Mummified cat from Egypt
- HORATIO C. WOOD
Pair of Japanese swords
Three ethnological specimens

THE MUSEUM JOURNAL

LOANS

MISS BEATRICE FOX

Gold ornament from Chirique

MISS EMMELINE GOODMAN

American Indian collection

HIRAM W. HIXON

Mexican collection

MRS. JOHN KEARSLEY MITCHELL

Greek vases

JOHN B. STETSON

Mummified head

Decorated shirt of bark

Feather headdress

Native spear and other implements from Ecuador

GIFTS TO LIBRARY

CHARLES P. BOWDITCH

Photostat reproduction of Quiche-Spanish and Spanish-Quiche dictionary

MRS. CHARLES BRINTON COXE

Set of Curtis' *North American Indian* in eleven volumes of text and eleven folios of plates

REPORT OF
THE TREASURER

REPORT OF THE TREASURER

FOR THE YEAR ENDING JUNE 30, 1917

RECEIPTS

Balance, June 30, 1916.....		\$10,476 96
Annual Dues:		
Annual Members.....	\$5,230 00	
Fellowship Members.....	2,700 00	
Sustaining Members.....	1,350 00	
		\$9,280 00
Gifts:		
Expedition and Collection Fund.....	\$145,073 21	
China Expedition Fund.....	6,000 00	
Egyptian Expedition Fund.....	15,236 02	
General Purposes.....	60,015 00	
		226,324 23
Sales:		
Publications.....	\$872 19	
Cases.....	400 00	
Slides, Photos, Casts, Rentals and Re-		
funds.....	171 03	
		1,443 22
Income from Invested Funds:		
Pepper Hall Endowment Fund.....	\$2,331 49	
General Fund.....	881 75	
Endowment Fund.....	749 80	
Louis A. Duhring Fund.....	10,263 84	
Sommerville Collection Fund.....	1,027 04	
Lucy Wharton Drexel Medal Fund....	94 12	
Lucy Wharton Drexel Museum Cast		
Fund.....	929 63	
Francis C. Macauley Fund.....	232 41	
Carl Edelheim Excavation Fund.....	47 15	
		16,557 23
Interest on Bank Balances.....		228 31
		253,832 99
		\$264,309 95

THE MUSEUM JOURNAL

EXPENDITURES

General Fund:

Salaries.....	\$40,642 16
Supplies and expenses.....	14,267 32
Lectures.....	1,458 40
Printing publications.....	9,530 55
Books.....	396 30
Equipment.....	4,550 91

\$70,845 64

Expedition and Collection Fund.....	155,325 46
Amazon Expedition Fund.....	1,298 41
China Expedition Fund.....	2,166 89
Egyptian Expedition Fund.....	16,000 00
Guatemalan Expedition Fund.....	477 00
Carl Edelheim Excavation Fund.....	180 04

\$246,293 44

Cash Balances, June 30, 1917:

Prize Essay Fund.....	\$11 11
Expedition and Collection Fund.....	100 00
China Expedition Fund.....	3,833 11
Guatemalan Expedition Fund.....	43 00
Carl Edelheim Excavation Fund.....	51 47
Lucy Wharton Drexel Medal Fund.....	806 87
Lucy Wharton Drexel Museum Cast Fund....	1,853 52
Pepper Statue Fund.....	46 07
Francis C. Macauley Fund.....	1,144 36
General Fund.....	10,890 98

\$18,780 49

Egyptian Expedition Fund, Deficit.....	763 98
--	--------

18,016 51

\$264,309 95

GIFTS TO THE UNIVERSITY MUSEUM

FROM JULY 1, 1916, TO JUNE 30, 1917

Expedition and Collection Fund:

Through the Treasurer of the University of Pennsylvania \$145,073 21

China Expedition Fund:

Through the Treasurer of the University of Pennsylvania 6,000 00

Egyptian Expedition Fund:

Eckley B. Coxe, Jr. \$236 02

Estate of Eckley B. Coxe, Jr. 15,000 00

15,236 02

General Purposes:

Through the Treasurer of the University of Pennsylvania \$11,500 00

Eckley B. Coxe, Jr. 8,750 00

Estate of Eckley B. Coxe, Jr. 26,250 00

Anonymous, in memory of the late Eckley B. Coxe, Jr. 1,000 00

City of Philadelphia Appropriation 12,500 00

Mrs. Joseph H. Bovaird 10 00

Samuel A. Crozer 5 00

60,015 00

\$226,324 23

W. H. HUTT, JR.,
Treasurer.

We hereby certify that we have audited the accounts of the University Museum for the year ended 30th June, 1917, and found them to be correct, and that the foregoing report of the Treasurer is in agreement with the books of account.

LYBRAND, ROSS BROS. & MONTGOMERY,
Certified Public Accountants.

23d October, 1917.

GIFTS TO THE UNIVERSITY MUSEUM THROUGH THE
TREASURER OF THE UNIVERSITY OF PENNSYLVANIA

FROM JULY 1, 1916, TO JUNE 30, 1917

AMAZON EXPEDITION FUND:

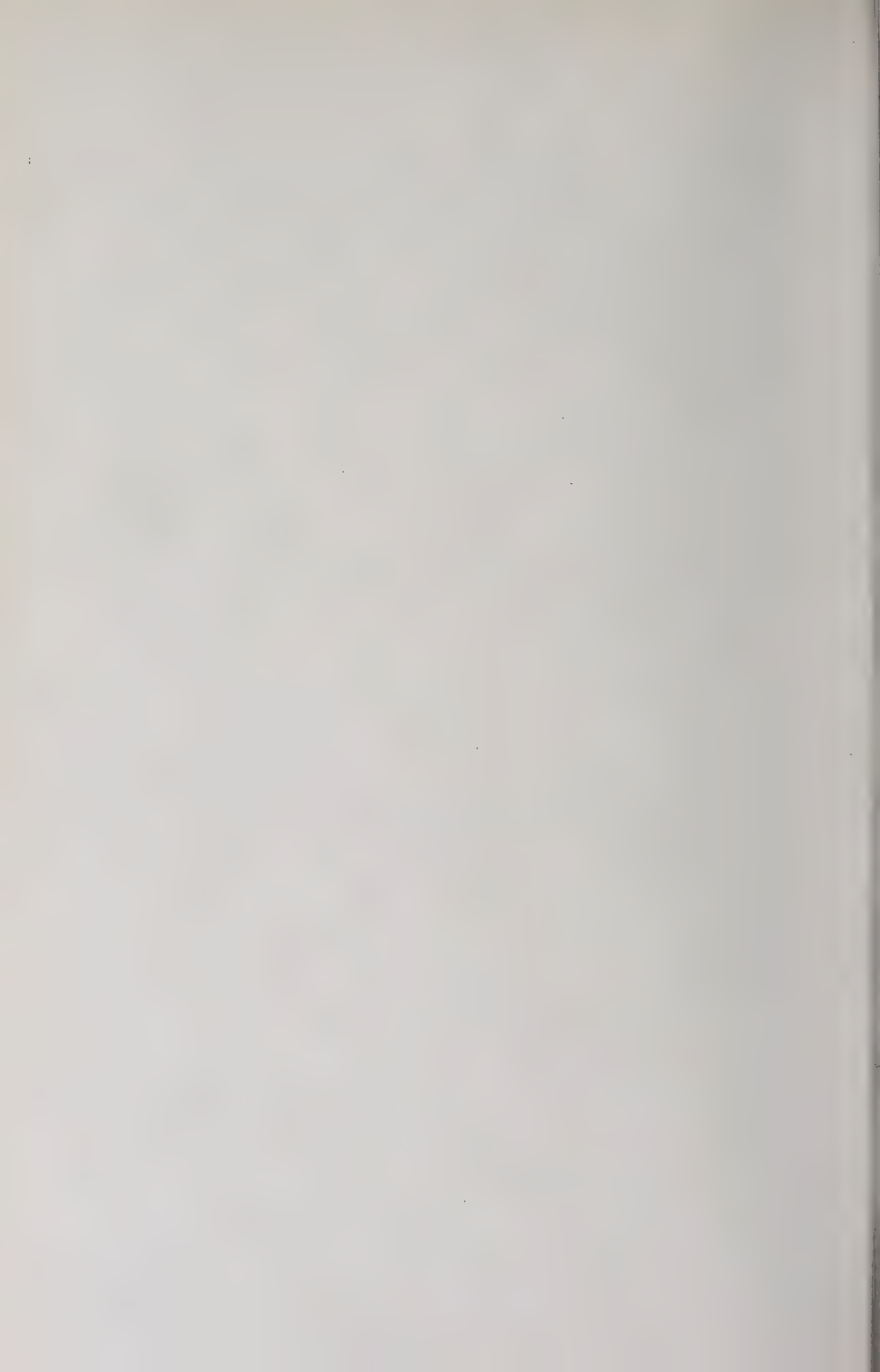
Heye, George G.....	\$5,000 00
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UNIVERSITY MUSEUM EXPEDITION AND COLLECTION FUND:

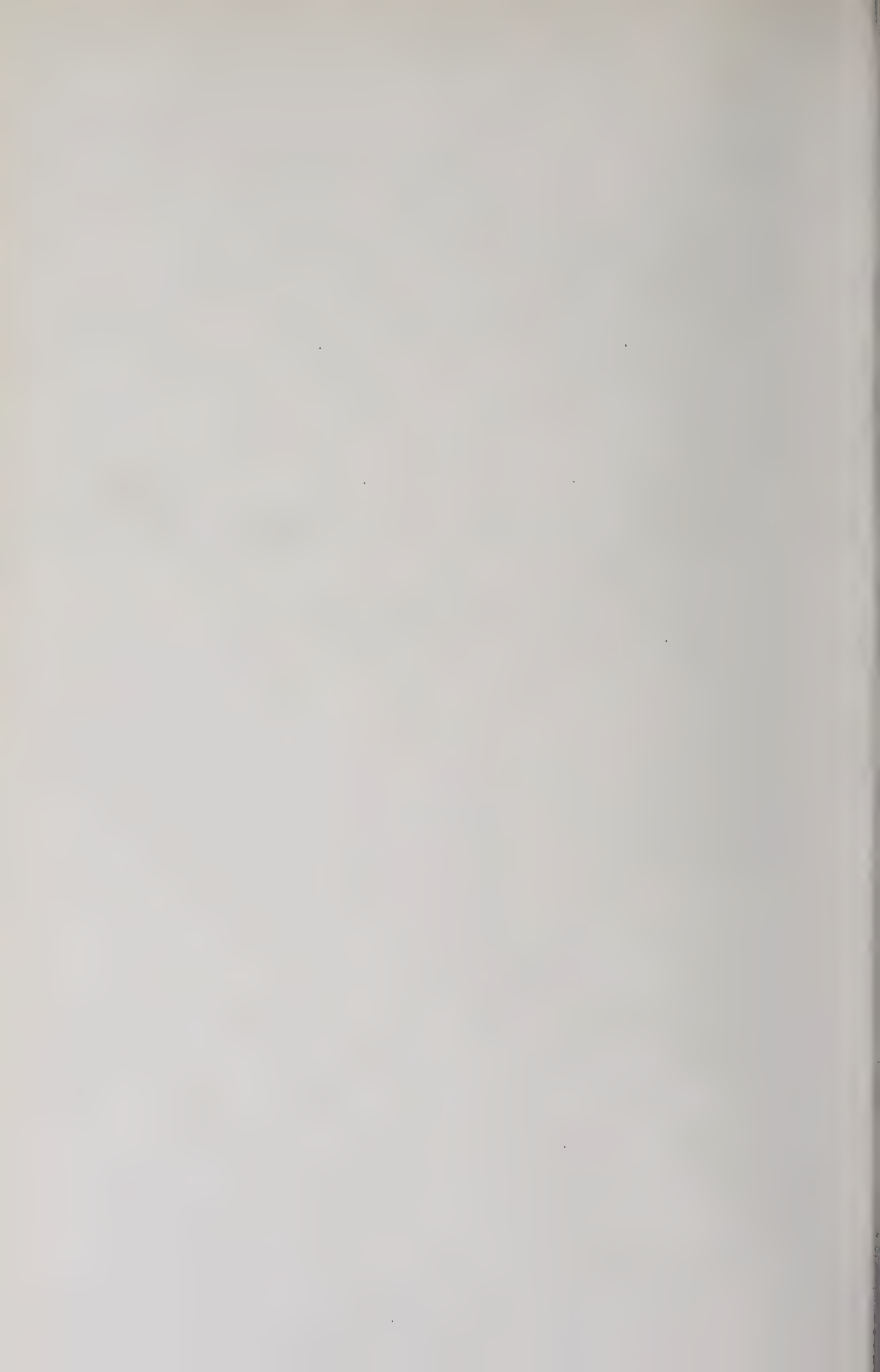
Anonymous.....	\$250 00
Allen, William F.....	100 00
Battles, Frank.....	100 00
Belfield, T. Broom.....	1,000 00
Benson, G. S., Jr.....	100 00
Blanchard, Miss Harriet.....	5,000 00
Bonnell, Henry H.....	2,000 00
Bower, William H.....	7,500 00
Burnham, George, Jr.....	1,000 00
Campbell, Milton.....	500 00
Castner, Samuel, Jr.....	500 00
Clark, E. W.....	5,000 00
Clark, Percy H.....	500 00
Collins, Henry H.....	500 00
Colton, S. W., Jr.....	7,500 00
Daniel, Charles A.....	500 00
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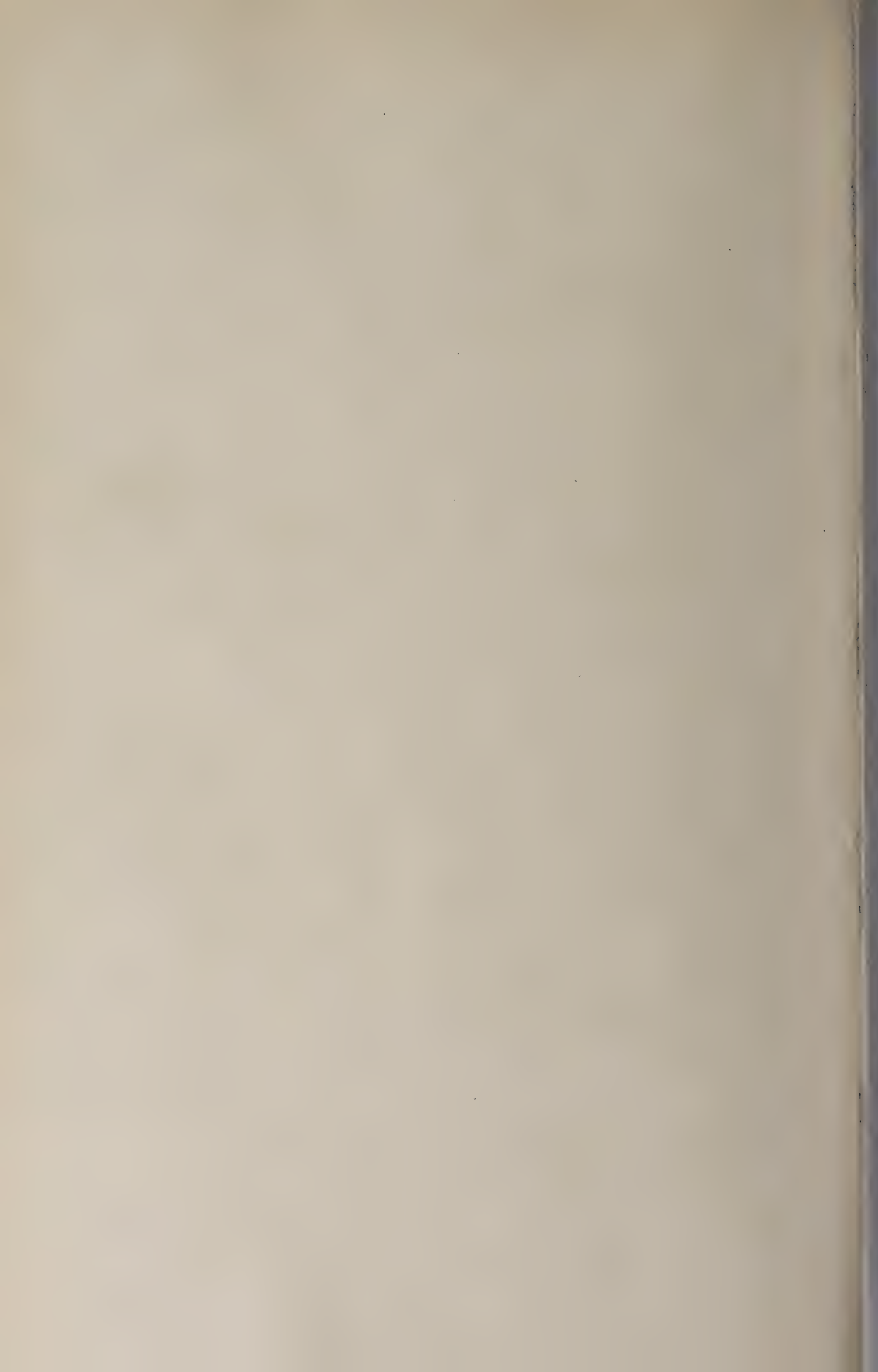
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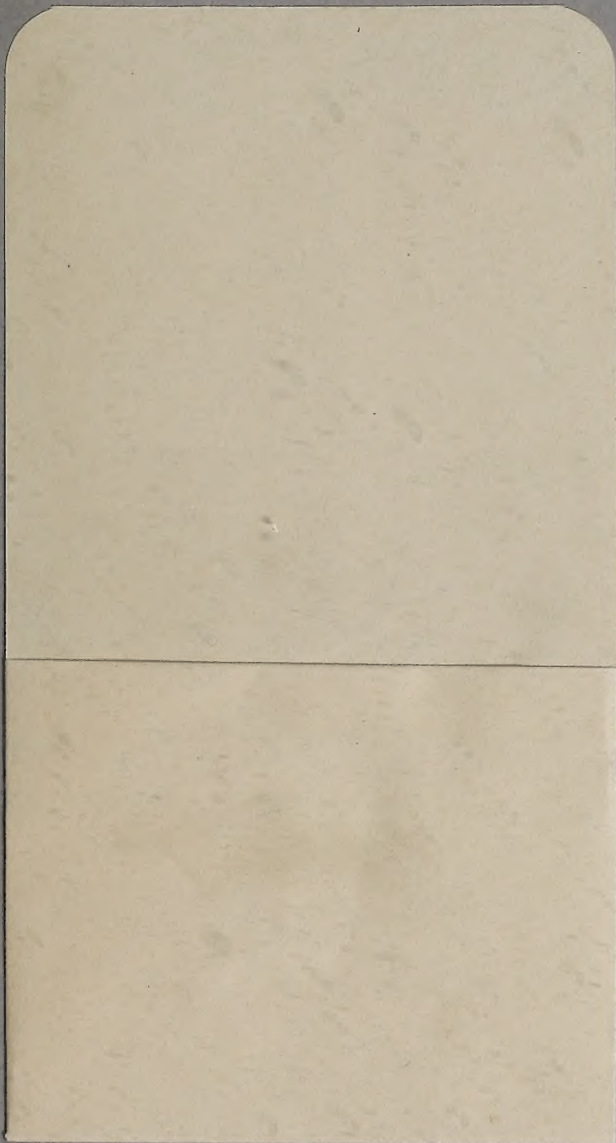
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